

**FIFTH AMENDMENT  
TO  
VOLUNTARY CLEANUP CONTRACT  
03-5044-NRP**

**IN THE MATTER OF  
CHARLESTON NAVAL BASE, CHARLESTON COUNTY  
and  
THE CITY OF NORTH CHARLESTON**

**WHEREAS**, on April 1, 2003, R. Keith Summey, Mayor of the City of North Charleston ("City"), signed Voluntary Cleanup Contract 03-5044-NRP ("VCC"); this contract initially addressed the transfer of the entire northern portion of the Charleston Naval Base [approximately seven hundred and twenty-five acres (725)] from the Charleston Naval Complex Redevelopment Authority ("RDA") to the City;

**WHEREAS**, the first amendment, dated February 10, 2004, to the VCC reduced the scope of the VCC to just that property that the City received on April 1, 2003, to approximately three hundred fifty (350) acres;

**WHEREAS**, the second amendment, dated August 26, 2004, corrected the property description for the property that was transferred to the City on April 1, 2003 to two hundred forty-eight (248) acres, also known as the RDA Phase I and II conveyances;

**WHEREAS**, the third amendment, executed by the City on November 23, 2004, included the portion of the Charleston Naval Base that was conveyed from the RDA to the City on December 23, 2004 containing 80.151 acres, known as the RDA Phase III conveyance; and

**WHEREAS**, the fourth amendment, executed by the City on February 7, 2005, included the portion of the Charleston Naval Base that was conveyed from the RDA to the City on March 30, 2005, containing 40.182 acres, known as the McMillan Avenue Entrance; and

**WHEREAS**, the City is now prepared to receive from the RDA other portions of the property, which were included in the Phase IV conveyance from the Navy to the RDA, containing approximately 135.39 acres. The legal descriptions and maps of these parcels are included in Appendix A.

**WHEREAS**, the parties hereto now desire to amend the VCC to include Parcels 1, 2, 3, 4, 5, Lots A, C, D, and E of Parcel 7, 16, 17, 18, 19, and 20 of the Phase IV conveyance from the Navy to the RDA as described in Appendix A, as part of the VCC and resulting benefits;

**NOW THEREFORE IT IS AGREED**, that the Voluntary Cleanup Contract 03-5044-NRP is hereby amended to include and address the approximately 135.39 acres as described in Appendix A by the inclusion of the following modifications and additional terms:

1. "AOC" shall mean area of concern;
2. "Change in Land Use" shall mean a) any change in land that would be inconsistent with those specific exposure assumptions in the human health and/or ecological risk assessments or other criteria that served as the basis for selecting the Land Use Controls as part of the final corrective action; b) any activity that may disrupt the effectiveness of the Land Use Control, including but not limited to: excavation at a Solid Waste Management Unit and/or Area of Concern; demolition at a Solid Waste Management Unit and or Area of Concern; groundwater pumping that may impact a groundwater mixing zone or groundwater corrective action or monitoring program; a construction project that may impact ecological habitat protected by the corrective action; removal of access control; removal of warning signs; or rezoning; c) any activity that may alter or negate the need for the specific Land Use Controls.
3. "Deed" shall mean all deeds for real property included in Appendix A;
4. "Government" shall mean the U. S. Government;

5. "Land Use Controls" shall mean any restriction or control that limits the use of and/or exposure to any portion of that property, including water resources, arising from the need to protect human health and the environment. The term encompasses "institutional controls," such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other "legal" restrictions. The term also includes restrictions on access, whether achieved by means of engineering barriers (e.g., fence or concrete pad) or by human means (e.g. the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., no drilling of drinking water or irrigation wells for the duration of the corrective action);
6. "SWMU" shall mean solid waste management unit;
7. The Department acknowledges that the RDA will transfer Parcels 1, 2, 3, 4, 5, Lots A, C, D, and E of Parcel 7, and 16 as legally described in Appendix A (hereinafter the "Early Transfer Parcels") to the City with land use controls (LUCs), deed notices, and covenants that restrict the use of the property and use of the groundwater beneath the property and that require certain maintenance, monitoring, response actions, and reporting be performed. As long as LUCs remain on the Early Transfer Parcels, the LUCs shall be contained in the Deed and shall be included in any lease, license, sale, or transfer of the property. As long as LUCs remain on the Early Transfer Parcels, the Government shall remain responsible for the maintenance of the LUCs including, but not limited to, maintenance of any groundwater monitoring and remedial action activities and/or systems with the Early Transfer Parcels. Further, as long as the LUCs remain on the Early Transfer Parcels, the City, its successors, and assigns shall conduct inspections/review, at the frequency specified in the most recently approved Corrective Measures Implementation Workplan or other Corrective Action document approved by the Department, of all SWMUs and/or AOCs within the Early Transfer Parcels and identified in Appendix A-8 of RCRA Hazardous

Waste Permit SC0170022560. Until final Corrective Measures are selected for each SWMU/AOC and the modified RCRA permit is effective, the appropriate LUCs inspection frequencies shall be included in the Interim Measure Work Plan for Interim LUCs. These inspections shall be for the purposes of verifying that all necessary LUCs have been implemented and are being properly maintained. Appendix B provides the currently approved Land Use Controls and Inspection Frequency for Charleston Naval Complex SWMUs/AOCs, dated August 2004.

The City, its successors, and assigns shall be responsible for the following:

- A. Ensure that all required inspections are performed.
- B. Ensure that the Department and the Government are provided with thirty (30) days advance notice of, and opportunity to observe facility personnel as they conduct at least one of the inspections each year.
- C. Ensure that the Department and the Government are notified in writing within thirty (30) days of any deficiencies noted.
- D. Allow access to the Government to ensure that all appropriate measures are undertaken within thirty (30) days to correct any deficiencies and that the Department is notified timely and in writing of measures taken.

If the City, its successors, and assigns accept responsibility for correcting any deficiencies regarding the LUCs, then it shall ensure that all appropriate measures are undertaken within thirty (30) days to correct any deficiency(ies) and that the Department is notified timely in writing of measures taken. If thirty (30) days is not sufficient time to correct the deficiency(ies), the City, its successors, and assigns shall submit a written request for an extension to the Department. The written request must provide the rationale for the extension and a projected timeframe for rectifying the deficiency(ies).

The City, its successors and assigns shall prepare and forward an annual report to the Government certifying the continued maintenance of all LUCs associated with those SWMUs and/or AOCs identified in RCRA Hazardous Waste Permit Number SC0170022560 Appendix A-8.

While the Government has the responsibility of meeting any and all requirements of this paragraph pursuant to RCRA Hazardous Waste Permit Number SC0170022560, the City, its successors, and assigns have responsibility to meet the requirements as stated in this Contract.

8. Further, the City, its successors, and assigns shall provide written notification to the Department and the Government at least sixty days (60) (except in emergency situations- where notice should be given as soon as practicable) prior to implementation of any change in land use at the SWMUs and/or AOCs identified in the RCRA Hazardous Waste Permit Number SC0170022560 Appendix A-8. Any proposed changes in land use shall be consistent with the RCRA Hazardous Waste Permit Number SC0170022560. The Department must provide concurrence with the contemplated change(s).

No land use change shall be implemented until the Department's response is received. The request for land use change shall include the following, at a minimum:

- A. An evaluation of whether the anticipated land use change will pose unacceptable risks to human health and the environment or negatively impact the effectiveness of the selected corrective action;
- B. An evaluation of the need for any additional corrective action or LUCs resulting from implementation of the anticipated land use change; and, a proposal for any necessary changes in the selected corrective action;

9. Upon transfer of all or a portion of the Early Transfer Parcels, the City, its successors and assigns shall provide the Department and the Government with a copy of the Deed effecting such transfer, along with any supporting information, within ten (10) days of transfer.

Should the decision be made to transfer to any other agency, private person, or entity, either title to, or some lesser form of property interest (e.g., an easement, or right of way, etc.) SWMUs and/or AOCs identified in the RCRA Hazardous Waste Permit

Number SC0170022560 Appendix A-8, then the City, its successors, and assigns shall ensure that at a minimum in accordance with South Carolina Hazardous Waste Management Regulation 61-79.270.42:

The Department and the Government are provided written notification prior to the initiation of the property conveyance process. This notification must be submitted at least ninety (90) days prior to the property conveyance except for those conveyances that occur prior to October 21, 2005. All notices before and after October 21, 2005, shall indicate the following:

- A. The type of property conveyance (e.g., an easement, or right of way, etc.);
- B. The anticipated final date for the conveyance;
- C. Future property owners;
- D. A list of SWMUs and/or AOCs affected by the conveyance; and,
- E. Mechanism(s) that will be used to maintain any LUCs which may need to remain in place after the property conveyance.

For the Department, this notice shall be made to the following:

The Director of Waste Management  
Bureau of Land & Waste Management  
South Carolina Department of Health and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

For the Government, this notice shall be made to the following:

Remedial Project Manager  
BRAC Program Management Office SE  
2155 Eagle Drive  
N. Charleston, SC 29419-9010

All LUCs for SWMUs and/or AOCs identified in the RCRA Hazardous Waste Permit Number SC01700022560 Appendix A-8 must be incorporated into the property conveyance documents so that the transferee(s) is given adequate notice of existing site condition(s). The details of the LUC provided in the property conveyance documents must be consistent with the details in the document where the final corrective action implementation was approved by the Department.

It is understood that for the planned conveyance of any SWMUs and/or AOCs identified in the RCRA Hazardous Waste Permit Number SC01700022560 Appendix A-8, the Department will re-evaluate the continued appropriateness of any previously agreed upon LUC(s) based upon the level of assurance provided, to ensure that necessary LUCs will be maintained and enforced.

10. The City, its successors and assigns shall follow the *Process to Conduct Construction Activities in Areas under Land Use Controls at the Charleston Naval Complex* found in Appendix C for new construction and/or renovations in areas of the Complex that are subject to corrective action by the Government and/or Land Use Controls.
11. Paragraph 10 of the VCC shall be amended to provide that the assignment of the rights and obligations of the VCC pursuant to the terms of this provision does not in any manner affect or diminish the liability protection to which the City is entitled under the terms of the VCC, including, but not limited to, the protection from claims pursuant to CERCLA 42 U.S.C. §§ 9601, et seq., and S.C. Code Ann. §§ 44-56-200 and 44-45-750, as provided by the terms of Paragraphs 14, 15, and 17 of the VCC; and further to provide that upon submission of a completed Information and Certification (form provided in Appendix F) by subsequent purchasers, successors, transferees, and/or new lessees and upon written approval by the Department, the rights and obligations of this Contract shall be assignable to a new purchaser, lessee, parent, subsidiary, or successor, but only to the extent that the new purchaser, lessee, parent, subsidiary, or successor has never been a Responsible Party at the Site. Further, in order for the rights and obligations of this Contract to be assignable to a purchaser,

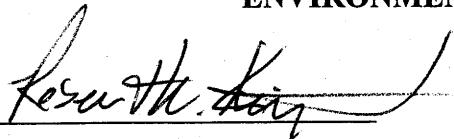
successor, or transferee, that purchaser, successor, or transferee must certify that the continued operation of the facility or new property development, with the exercise of due care, will not aggravate or contribute to the existing contamination or interfere with any future response action, nor will it pose health risks to either the community or those persons likely to be present at or near the Site.

12. Paragraph 11 of the VCC shall be amended to allow the Government or its authorized officers, employees, and representatives, in addition to the Department and other persons performing response actions, access to the Early Transfer Parcels during normal business hours or at any time work under this Contract is being performed or during any environmental emergency or imminent threat situation, as determined by the Department, the Government, its contractors, or as allowed by applicable law.
13. Paragraph 16 of VCC shall not apply to the Early Transfer Parcels. Instead, the following paragraph shall apply:

Since hazardous substances or hazardous constituents in excess of residential standards exist at Early Transfer Parcels at the time the Early Transfer Parcels are transferred to the City, land use restrictions have been defined in a Restrictive Covenant entered into by the RDA and the Department and filed (filed on \_\_\_\_\_, 2005 and recorded in Book \_\_\_\_\_, at Page \_\_\_\_\_). The signed covenant is incorporated into this Amendment as Appendix D. With the approval of the Department, the restrictive covenant may be modified in the future if:  
(a) additional remedial activities are carried out which meet appropriate clean up standards at that time; (b) a significant change in law requiring remediation occurs; or  
(c) circumstances change such that the restrictive covenant would no longer be applicable.

THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND  
ENVIRONMENTAL CONTROL

BY:



DATE:

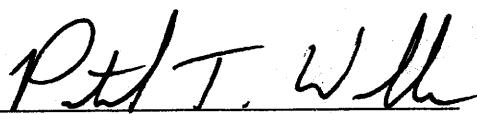
12/20/05

Robert W. King, Jr.

Columbia, South Carolina

Deputy Commissioner

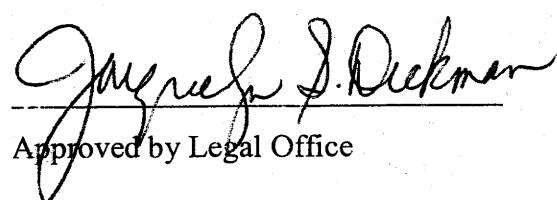
Environmental Quality Control



DATE:

12/20/05

Patrick T. ("Pat") Walker, Chief  
Bureau of Land and Waste Management



Approved by Legal Office

DATE:

December 14, 2005

THE CITY OF NORTH CHARLESTON



DATE:

10/19/05

R. Keith Summey, Mayor

## **APPENDIX A**

### **LEGAL DESCRIPTIONS AND MAPS OF PARCELS**

Brownfields Agreement  
Parcel 3  
Charleston Naval Base  
North Charleston, South Carolina

SEPTEMBER 22, 2003

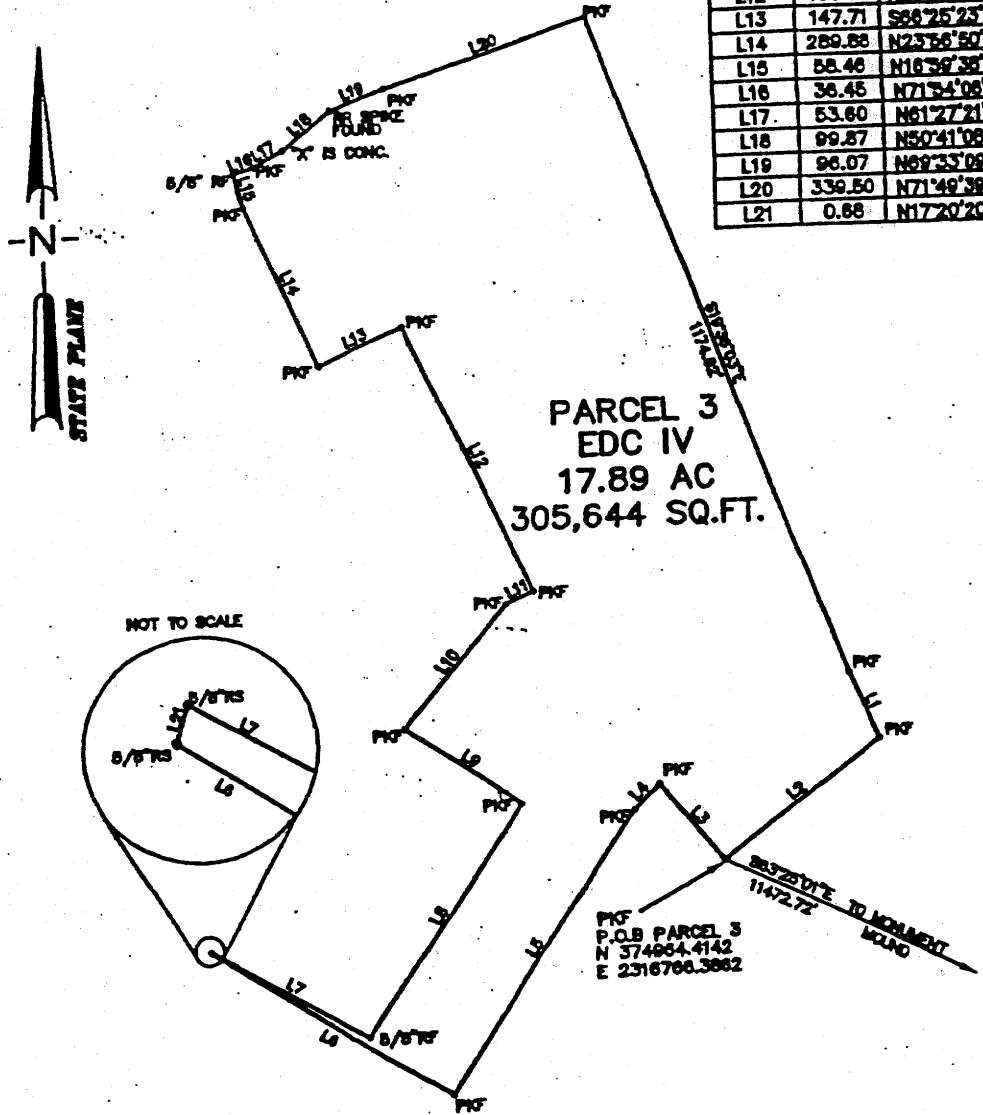
ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 3 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOULD" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N63-25-01W A DISTANCE OF 11,472.72' TO A PK NAIL FOUND LOCATED AT STATE PLANE COORDINATE N374964.4142, E2316766.3862 SAID POINT BEING THE POINT OF BEGINNING; THENCE N38-03-09W A DISTANCE OF 163.43' TO A PK NAIL FOUND; THENCE S43-15-11W A DISTANCE OF 56.68' TO A PK NAIL FOUND; THENCE FOLLOWING THE PROPERTY LINE OF THE CITY OF NORTH CHARLESTON S33-10-44W A DISTANCE OF 541.77' TO A PK NAIL FOUND; THENCE FOLLOWING THE PROPERTY OF IDA-MOR CORPORATION N57-05-16W A DISTANCE OF 449.50' TO A 5/8" REBAR SET; THENCE N17-20-20E A DISTANCE OF 0.68' TO A 5/8" REBAR SET; THENCE S59-54-33E A DISTANCE OF 293.24' TO A 5/8" REBAR FOUND; THENCE N33-04-08E A DISTANCE OF 446.93' TO A PK NAIL FOUND; THENCE N54-11-17W A DISTANCE OF 220.32' TO A PK NAIL FOUND; THENCE N38-26-45E A DISTANCE OF 259.93' TO A PK NAIL FOUND; THENCE N66-03-50E A DISTANCE OF 49.72' TO A PK NAIL FOUND; THENCE N23-35-49W A DISTANCE OF 488.87' TO A PK NAIL FOUND; THENCE N16-59-38W A DISTANCE OF 289.88' TO A PK NAIL FOUND; THENCE N23-56-50W A DISTANCE OF 147.71' TO A PK NAIL FOUND; THENCE N61-27-21E A DISTANCE OF 36.45' TO A PK NAIL FOUND; THENCE N50-41-08E A DISTANCE OF 53.60' TO AN "X" IN CONCRETE; THENCE N50-41-08E A DISTANCE OF 99.87' TO A RAILROAD SPIKE FOUND; THENCE N69-33-09E A DISTANCE OF 96.07' TO A PK NAIL FOUND; THENCE N71-49-39E A DISTANCE OF 339.50' TO A PK NAIL FOUND; THENCE S19-36-03E A DISTANCE OF 1174.62' TO A PK NAIL FOUND; THENCE S22-06-39E A DISTANCE OF 119.59' TO A PK NAIL FOUND; THENCE S53-26-03W A DISTANCE OF 320.72' TO THE POINT OF

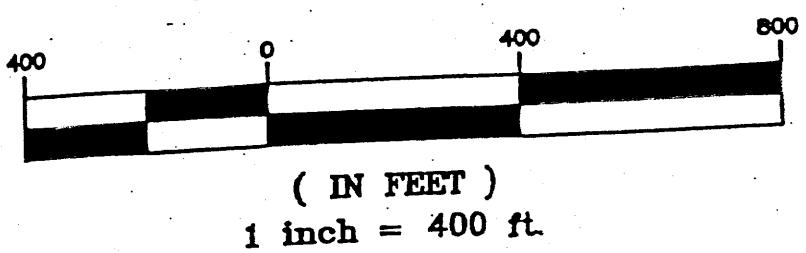
NOTES:  
1) THE POINT OF COMMENCEMENT FOR THIS SURVEY IS  
ON ARMY CORPS OF ENGINEERS DECK "SOUND".  
2) SURVEYED BY  
3) 1970 SURVEY  
4) NORTH AMERICAN DATUM 1960

5) THE BEARINGS FOR THIS SURVEY ARE BASED ON THE  
NORTHAMERICAN SET BY FOWLER ENGINEERING UNDER CONTRACT  
NO 947-61-0-1980.

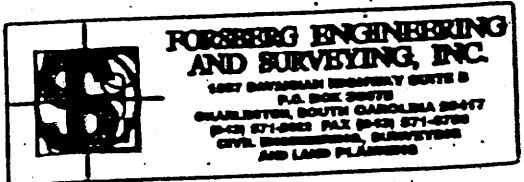
LINE TABLE		
LINE	LENGTH	BEARING
L1	119.59	S22°08'38"E
L2	320.72	S33°26'03"W
L3	163.43	N36°03'08"W
L4	56.68	S45°15'11"W
L5	841.77	S33°10'44"W
L6	448.50	N57°05'16"W
L7	293.24	S59°34'35"E
L8	448.93	N33°04'08"E
L9	220.32	N64°11'17"W
L10	259.83	N39°26'45"E
L11	49.72	N60°03'30"E
L12	486.87	N23°35'49"W
L13	147.71	S06°25'23"W
L14	289.88	N23°36'50"W
L15	58.48	N16°36'38"W
L16	36.48	N71°34'08"E
L17	53.60	N61°27'21"E
L18	69.87	N50°41'08"E
L19	96.07	N69°33'09"E
L20	339.50	N71°49'38"E
L21	0.68	N17°20'20"E



## GRAPHIC SCALE



PARCEL 3  
EDC IV  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, S.C.



Brownfields Agreement  
Parcel 6  
Charleston Naval Base  
North Charleston, South Carolina

SEPTEMBER 22, 2003

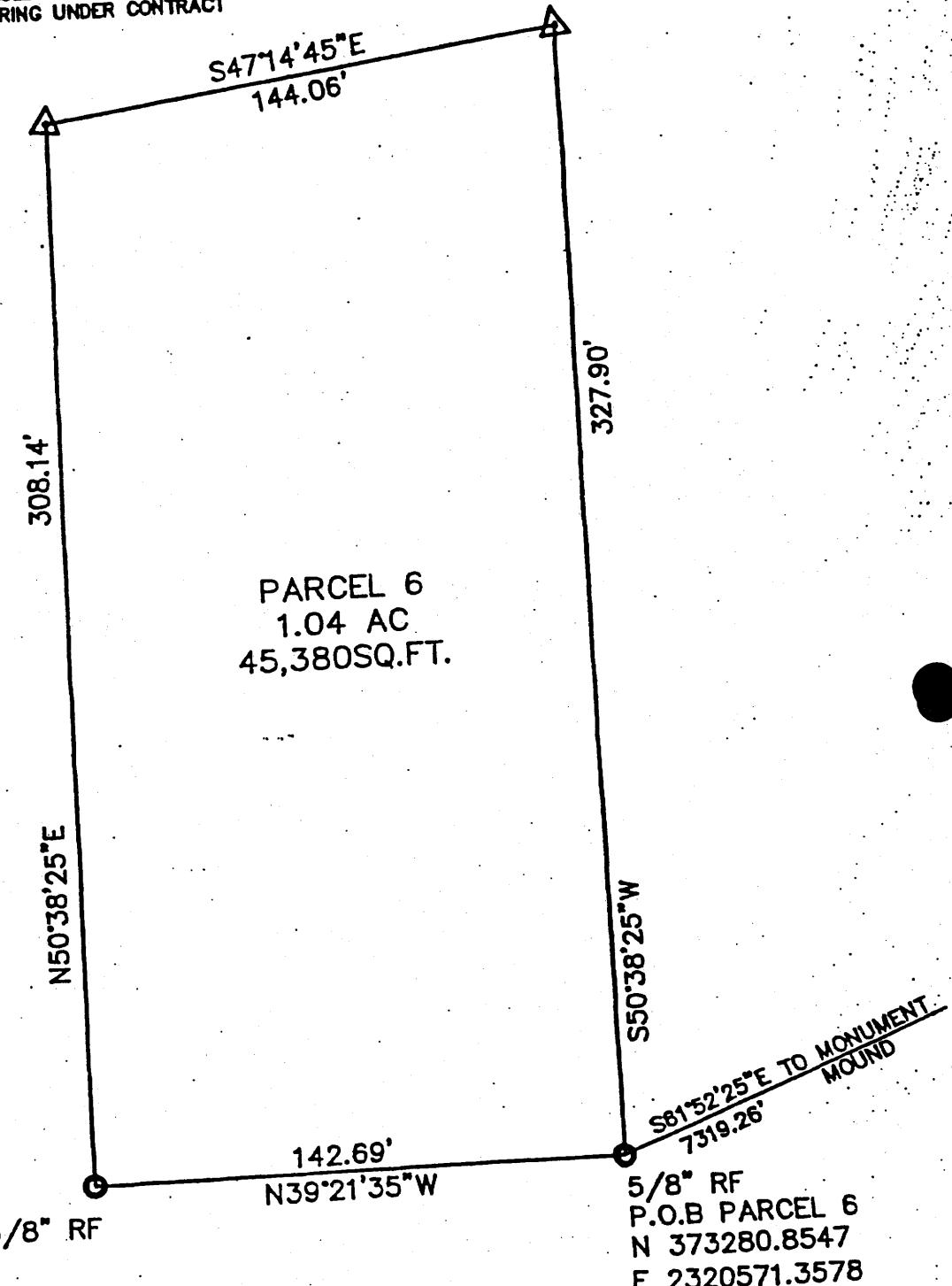
ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 6 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOUND" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N61-52-25W A DISTANCE OF 7,319.26' TO A 5/8" REBAR FOUND LOCATED AT STATE PLANE COORDINATE N373280.8547, E2320571.3578, SAID POINT BEING THE POINT OF BEGINNING; THENCE N39-21-35W A DISTANCE OF 142.69' TO A 5/8" REBAR FOUND; THENCE N50-38-25E A DISTANCE OF 308.14' TO A COMPUTED POINT OFF AN EXISTING BULKHEAD; THENCE S47-14-45E A DISTANCE OF 144.06' TO A COMPUTED POINT 5' OFF AN EXISTING BULKHEAD; THENCE S50-38-25W A DISTANCE OF 327.90' TO THE POINT OF BEGINNING AND CONTAINING 1.04 ACRES (45,380 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).

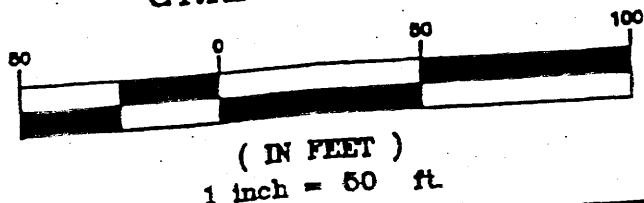
THE POINT OF COMMENCEMENT FOR THIS SURVEY IS  
ARMED FORCES ENGINEERS DISK "MOUND".  
369830.424483  
2327028.206330  
NORTH AMERICAN DATUM 1983

THE BEARINGS FOR THIS SURVEY ARE BASED ON THE  
DOCUMENTATION SET BY FORSBERG ENGINEERING UNDER CONTRACT  
#87-81-C-1820.

FORSBERG ENGINEERING  
AND SURVEYING, INC.  
1007 DAWBARN MCKEEBAY SUITE B  
P.O. BOX 36070  
CHARLESTON, SOUTH CAROLINA 29417-3607  
PHONE 871-5202 FAX 871-5700  
CIVIL ENGINEERING, SURVEYS  
AND LAND PLANNING



### GRAPHIC SCALE



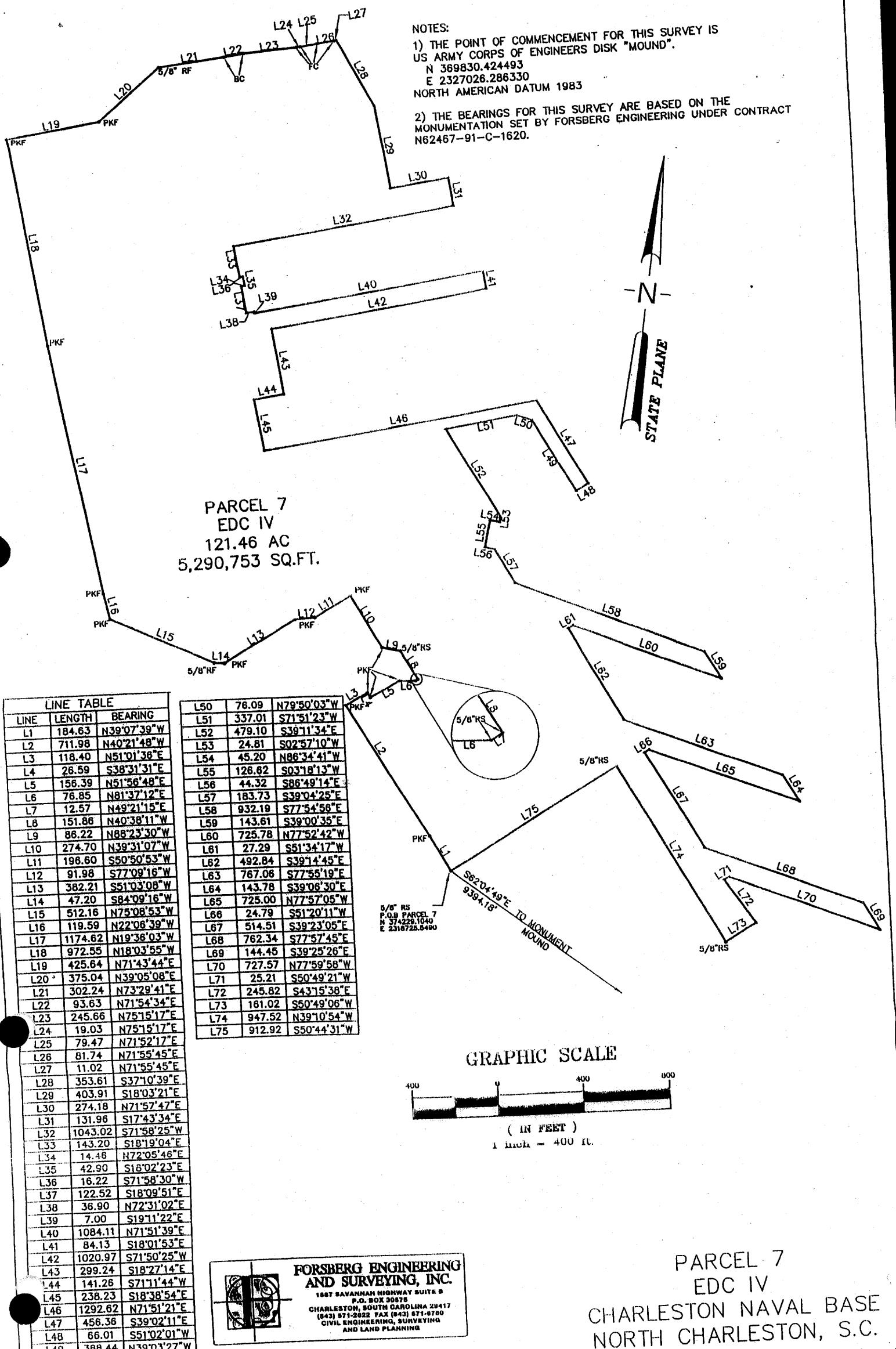
PARCEL 6  
EDC IV  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, S.C.

BROWNFIELDS AGREEMENT  
PARCEL 7  
EDC IV LAND TRANSFER  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, SOUTH CAROLINA

ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 7 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOUND" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N62-04-49W A DISTANCE OF 9,394.18' TO A 5/8" REBAR SET LOCATED AT STATE PLANE COORDINATE N374229.1040, E2318725.5490, SAID POINT BEING THE POINT OF BEGINNING; THENCE FOLLOWING THE NORTHERN EDGE OF HOBSON AVENUE THE FOLLOWING TWO COURSES N39-07-39W A DISTANCE OF 184.63' TO A PK NAIL FOUND; THENCE N40-21-48W A DISTANCE OF 711.98' TO A PK NAIL FOUND; THENCE FOLLOWING THE PROPERTY OF NISE EAST THE FOLLOWING ELEVEN COURSES N51-01-36E A DISTANCE OF 118.40' TO A PK NAIL FOUND; THENCE S38-31-31E A DISTANCE OF 26.59' TO A PK NAIL FOUND; THENCE N51-56-48E A DISTANCE OF 156.39' TO A 5/8" REBAR SET; THENCE N81-37-12E A DISTANCE OF 76.85' TO A 5/8" REBAR SET; THENCE N49-21-15E A DISTANCE OF 12.57' TO A 5/8" REBAR SET; THENCE N40-38-11W A DISTANCE OF 151.86' TO A 5/8" REBAR SET; THENCE N88-23-30W A DISTANCE OF 86.22' TO A PK NAIL FOUND; THENCE N39-31-07W A DISTANCE OF 274.70' TO A PK NAIL FOUND; THENCE S50-50-53W A DISTANCE OF 196.60' TO A PK NAIL FOUND; THENCE S77-09-16W A DISTANCE OF 91.98' TO A PK NAIL FOUND; THENCE S51-03-08W A DISTANCE OF 382.21' TO A PK NAIL FOUND; THENCE S84-09-16W A DISTANCE OF 47.20' TO A 5/8" REBAR FOUND; THENCE FOLLOWING THE NORTHERN EDGE OF HOBSON AVENUE THE FOLLOWING FOUR COURSE N75-08-53W A DISTANCE OF 512.16' TO A PK NAIL FOUND; THENCE N22-06-39W A DISTANCE OF 119.59' TO A PK NAIL FOUND; THENCE N19-36-03W A DISTANCE OF 1174.62' TO A PK NAIL FOUND; THENCE N18-03-55W A DISTANCE OF 972.55' TO A PK NAIL FOUND; THENCE ALONG EVERGLADES DRIVE THE FOLLOWING TWO COURSES N71-43-44E A DISTANCE OF 425.64' TO A PK NAIL FOUND, THENCE N39-05-08E A DISTANCE OF 375.04' TO A 5/8" REBAR FOUND; THENCE N73-29-41E A DISTANCE OF 302.24' TO THE CORNER OF BUILDING 223; THENCE N71-54-34E A DISTANCE OF 93.63' TO THE CORNER OF BUILDING 223; THENCE N75-15-17E A DISTANCE OF 245.66' TO A FENCE POST; THENCE N75-15-17E A DISTANCE OF 19.03' TO A FENCE POST; THENCE N71-52-17E A DISTANCE OF 79.47' TO A FENCE POST; THENCE N71-55-45E A DISTANCE OF 81.74' TO A FENCE POST; THENCE N71-55-45E A DISTANCE OF 11.02' TO A COMPUTED POINT AT THE MEAN HIGH WATER LINE; THENCE FOLLOWING A LINE 5' OFF EXISTING PIERS AND

BULKHEAD THE FOLLOWING FORTY-FIVE COURSES S37-10-39E A DISTANCE OF 353.61' TO A COMPUTED POINT; THENCE S18-03-21E A DISTANCE OF 403.91' TO A COMPUTED POINT; THENCE N71-57-47E A DISTANCE OF 274.18' TO A COMPUTED POINT; THENCE S17-43-34E A DISTANCE OF 131.96' TO A COMPUTED POINT; THENCE S71-58-25W A DISTANCE OF 1043.02' TO A COMPUTED POINT; THENCE S18-19-04E A DISTANCE OF 143.20' TO A COMPUTED POINT; THENCE N72-05-46E A DISTANCE OF 14.46' TO A COMPUTED POINT; THENCE S18-02-23E A DISTANCE OF 42.90' TO A COMPUTED POINT; THENCE S71-58-30W A DISTANCE OF 16.22' TO A COMPUTED POINT; THENCE S18-09-51E A DISTANCE OF 122.52' TO A COMPUTED POINT; THENCE N72-31-02E A DISTANCE OF 36.90' TO A COMPUTED POINT; THENCE S19-11-22E A DISTANCE OF 7.00' TO A COMPUTED POINT; THENCE N71-51-39E A DISTANCE OF 1084.11' TO A COMPUTED POINT; THENCE S18-01-53E A DISTANCE OF 84.13' TO A COMPUTED POINT; THENCE S71-50-25W A DISTANCE OF 1020.97' TO A COMPUTED POINT; THENCE S18-27-14E A DISTANCE OF 299.24' TO A COMPUTED POINT; THENCE S71-11-44W A DISTANCE OF 141.26' TO A COMPUTED POINT; THENCE S18-38-54E A DISTANCE OF 238.23' TO A COMPUTED POINT; THENCE N71-51-21E A DISTANCE OF 1292.62' TO A COMPUTED POINT; THENCE S39-02-11E A DISTANCE OF 456.36' TO A COMPUTED POINT; THENCE S51-02-01W A DISTANCE OF 66.01' TO A COMPUTED POINT; THENCE N39-03-27W A DISTANCE OF 388.44' TO A COMPUTED POINT; THENCE N79-50-03W A DISTANCE OF 76.09' TO A COMPUTED POINT; THENCE S71-51-23W A DISTANCE OF 337.01' TO A COMPUTED POINT; THENCE S39-11-34E A DISTANCE OF 479.10' TO A COMPUTED POINT; THENCE S02-57-10W A DISTANCE OF 24.81' TO A COMPUTED POINT; THENCE N86-34-41W A DISTANCE OF 45.20' TO A COMPUTED POINT; THENCE S03-18-13W A DISTANCE OF 126.62' TO A COMPUTED POINT; THENCE S86-49-14E A DISTANCE OF 44.32' TO A COMPUTED POINT; THENCE S39-04-25E A DISTANCE OF 183.73' TO A COMPUTED POINT; THENCE S77-54-56E A DISTANCE OF 932.19' TO A COMPUTED POINT; THENCE S39-00-35E A DISTANCE OF 143.61' TO A COMPUTED POINT; THENCE N77-52-42W A DISTANCE OF 725.78' TO A COMPUTED POINT; THENCE S51-34-17W A DISTANCE OF 27.29' TO A COMPUTED POINT; THENCE S39-14-45E A DISTANCE OF 492.84' TO A COMPUTED POINT; THENCE S77-55-19E A DISTANCE OF 767.06' TO A COMPUTED POINT; THENCE S39-06-30E A DISTANCE OF 143.78' TO A COMPUTED POINT; THENCE N77-57-05W A DISTANCE OF 725.00' TO A COMPUTED POINT; THENCE S51-20-11W A DISTANCE OF 24.79' TO A COMPUTED POINT; THENCE S39-23-05E A DISTANCE OF 514.51' TO A COMPUTED POINT; THENCE S77-57-45E A DISTANCE OF 762.34' TO A COMPUTED POINT; THENCE S39-25-26E A DISTANCE OF 144.45' TO A COMPUTED POINT; THENCE N77-59-58W A DISTANCE OF 727.57' TO A COMPUTED POINT; THENCE S50-49-21W A DISTANCE OF 25.21' TO A COMPUTED POINT; THENCE S43-15-38E A DISTANCE OF 245.82' TO A COMPUTED POINT; THENCE S50-49-06W A DISTANCE OF 161.02' TO A 5/8" REBAR SET; THENCE N39-10-54W A DISTANCE OF 947.52' TO A 5/8" REBAR SET; THENCE S50-44-31W A DISTANCE OF 912.92' TO THE POINT OF BEGINNING AND CONTAINING 121.46 ACRES (5,290.753 SQ. FT.) SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).



BROWNFIELDS AGREEMENT  
PARCEL 9  
EDC IV LAND TRANSFER  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, SOUTH CAROLINA

ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 9 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOULD" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N69-14-01W A DISTANCE OF 4,359.80' TO A 5/8" REBAR FOUND LOCATED AT STATE PLANE COORDINATE N371376.2363, E2322949.7321 SAID POINT BEING THE POINT OF BEGINNING; THENCE S15-30-08W A DISTANCE OF 149.49' TO A 5/8" REBAR FOUND; THENCE S15-30-08W A DISTANCE OF 634.11' TO A 5/8" REBAR FOUND; THENCE N70-20-12W A DISTANCE OF 183.87' TO A 5/8" REBAR FOUND; THENCE N60-18-47W A DISTANCE OF 273.23' TO A 5/8" REBAR FOUND; THENCE S18-25-35W A DISTANCE OF 69.76' TO A 5/8" REBAR FOUND; THENCE N59-28-53W A DISTANCE OF 870.98' TO A 5/8" REBAR SET; THENCE ALONG A CURVE TO THE LEFT WITH A LENGTH OF 421.95', RADIUS OF 782.83', CHORD BEARING OF N74-55-23W A CHORD DISTANCE OF 416.86' TO A 5/8" REBAR SET; THENCE S89-38-09W A DISTANCE OF 485.11' TO A 5/8" REBAR FOUND; THENCE S89-38-09W A DISTANCE OF 914.60' TO A 5/8" REBAR SET; THENCE ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 2569.55' A LENGTH OF 102.14', A CHORD BEARING OF N43-01-15W AND A CHORD DISTANCE OF 102.13' TO A 5/8" REBAR FOUND; THENCE S88-22-51E A DISTANCE OF 380.50' TO A 5/8" REBAR FOUND; THENCE N07-51-14E A DISTANCE OF 154.73' TO A 5/8" REBAR FOUND; THENCE N66-56-22E A DISTANCE OF 423.98' TO A 5/8" REBAR FOUND; THENCE N16-45-31E A DISTANCE OF 752.61' TO A 5/8" REBAR FOUND; THENCE N04-16-19E A DISTANCE OF 437.61' TO A 5/8" REBAR FOUND; THENCE N49-30-09E A DISTANCE OF 174.10' TO A 5/8" REBAR FOUND; THENCE S41-16-03E A DISTANCE OF 316.19' TO A PK NAIL FOUND; THENCE S15-15-42W A DISTANCE OF 400.99' TO A PK NAIL FOUND; THENCE S74-36-52E A DISTANCE OF 438.10' TO A 5/8" REBAR SET; THENCE N09-36-33E A DISTANCE OF 243.46' TO A PK NAIL FOUND; THENCE S39-28-02E A DISTANCE OF 234.48' TO A 5/8" REBAR SET; THENCE S17-27-19W A DISTANCE OF 107.06' TO A 5/8" REBAR SET; THENCE S74-32-39E A DISTANCE OF 746.13' TO A 5/8" REBAR SET; THENCE S15-27-21W A DISTANCE OF 370.29' TO A PK NAIL FOUND; THENCE S73-36-36E A DISTANCE OF 820.53' TO THE POINT OF BEGINNING AND CONTAINING 58.55 ACRES (2,550,486 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).

BROWNFIELDS AGREEMENT  
PARCEL 9  
EDC IV LAND TRANSFER  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, SOUTH CAROLINA

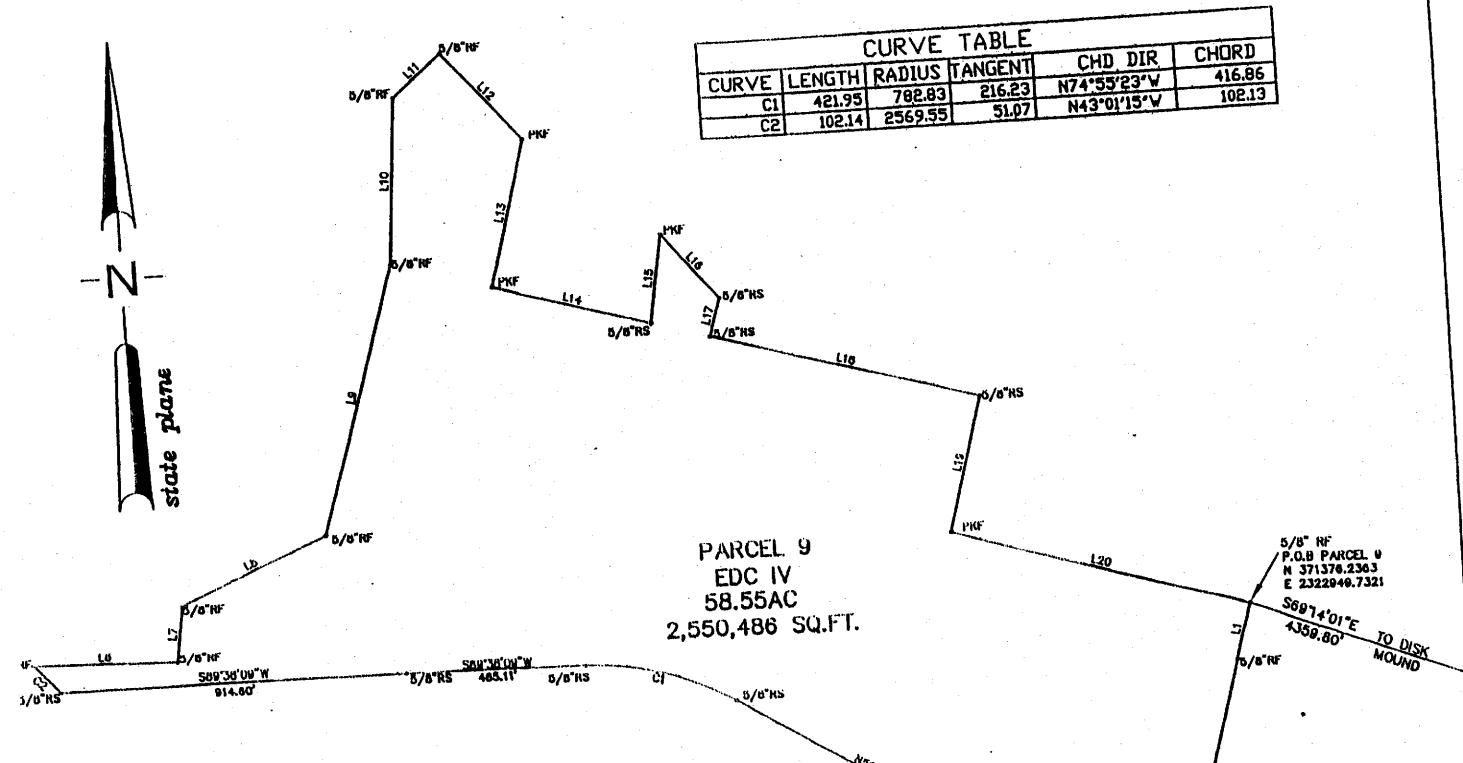
ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 9 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOULD" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N69-14-01W A DISTANCE OF 4,359.80' TO A 5/8" REBAR FOUND LOCATED AT STATE PLANE COORDINATE N371376.2363, E2322949.7321 SAID POINT BEING THE POINT OF BEGINNING; THENCE S15-30-08W A DISTANCE OF 149.49' TO A 5/8" REBAR FOUND; THENCE S15-30-08W A DISTANCE OF 634.11' TO A 5/8" REBAR FOUND; THENCE N70-20-12W A DISTANCE OF 183.87' TO A 5/8" REBAR FOUND; THENCE N60-18-47W A DISTANCE OF 273.23' TO A 5/8" REBAR FOUND; THENCE S18-25-35W A DISTANCE OF 69.76' TO A 5/8" REBAR FOUND; THENCE N59-28-53W A DISTANCE OF 870.98' TO A 5/8" REBAR SET; THENCE ALONG A CURVE TO THE LEFT WITH A LENGTH OF 421.95', RADIUS OF 782.83', CHORD BEARING OF N74-55-23W A CHORD DISTANCE OF 416.86' TO A 5/8" REBAR SET; THENCE S89-38-09W A DISTANCE OF 485.11' TO A 5/8" REBAR FOUND; THENCE S89-38-09W A DISTANCE OF 914.60' TO A 5/8" REBAR SET; THENCE ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 2569.55' A LENGTH OF 102.14', A CHORD BEARING OF N43-01-15W AND A CHORD DISTANCE OF 102.13' TO A 5/8" REBAR FOUND; THENCE S88-22-51E A DISTANCE OF 380.50' TO A 5/8" REBAR FOUND; THENCE N07-51-14E A DISTANCE OF 154.73' TO A 5/8" REBAR FOUND; THENCE N66-56-22E A DISTANCE OF 423.98' TO A 5/8" REBAR FOUND; THENCE N16-45-31E A DISTANCE OF 752.61' TO A 5/8" REBAR FOUND; THENCE N04-16-19E A DISTANCE OF 437.61' TO A 5/8" REBAR FOUND; THENCE N49-30-09E A DISTANCE OF 174.10' TO A 5/8" REBAR FOUND; THENCE S41-16-03E A DISTANCE OF 316.19' TO A PK NAIL FOUND; THENCE S15-15-42W A DISTANCE OF 400.99' TO A PK NAIL FOUND; THENCE S74-36-52E A DISTANCE OF 438.10' TO A 5/8" REBAR SET; THENCE N09-36-33E A DISTANCE OF 243.46' TO A PK NAIL FOUND; THENCE S39-28-02E A DISTANCE OF 234.48' TO A 5/8" REBAR SET; THENCE S17-27-19W A DISTANCE OF 107.06' TO A 5/8" REBAR SET; THENCE S74-32-39E A DISTANCE OF 746.13' TO A 5/8" REBAR SET; THENCE S15-27-21W A DISTANCE OF 370.29' TO A PK NAIL FOUND; THENCE S73-36-36E A DISTANCE OF 820.53' TO THE POINT OF BEGINNING AND CONTAINING 58.55 ACRES (2,550,486 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).

BROWNFIELDS AGREEMENT  
PARCEL 9  
EDC IV LAND TRANSFER  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, SOUTH CAROLINA

ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 9 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOUND" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N69-14-01W A DISTANCE OF 4,359.80' TO A 5/8" REBAR FOUND LOCATED AT STATE PLANE COORDINATE N371376.2363, E2322949.7321 SAID POINT BEING THE POINT OF BEGINNING; THENCE S15-30-08W A DISTANCE OF 149.49' TO A 5/8" REBAR FOUND; THENCE S15-30-08W A DISTANCE OF 634.11' TO A 5/8" REBAR FOUND; THENCE N70-20-12W A DISTANCE OF 183.87' TO A 5/8" REBAR FOUND; THENCE N60-18-47W A DISTANCE OF 273.23' TO A 5/8" REBAR FOUND; THENCE S18-25-35W A DISTANCE OF 69.76' TO A 5/8" REBAR FOUND; THENCE N59-28-53W A DISTANCE OF 870.98' TO A 5/8" REBAR SET; THENCE ALONG A CURVE TO THE LEFT WITH A LENGTH OF 421.95', RADIUS OF 782.83', CHORD BEARING OF N74-55-23W A CHORD DISTANCE OF 416.86' TO A 5/8" REBAR SET; THENCE S89-38-09W A DISTANCE OF 485.11' TO A 5/8" REBAR FOUND; THENCE S89-38-09W A DISTANCE OF 914.60' TO A 5/8" REBAR SET; THENCE ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 2569.55' A LENGTH OF 102.14', A CHORD BEARING OF N43-01-15W AND A CHORD DISTANCE OF 102.13' TO A 5/8" REBAR FOUND; THENCE S88-22-51E A DISTANCE OF 380.50' TO A 5/8" REBAR FOUND; THENCE N07-51-14E A DISTANCE OF 154.73' TO A 5/8" REBAR FOUND; THENCE N66-56-22E A DISTANCE OF 423.98' TO A 5/8" REBAR FOUND; THENCE N16-45-31E A DISTANCE OF 752.61' TO A 5/8" REBAR FOUND; THENCE N04-16-19E A DISTANCE OF 437.61' TO A 5/8" REBAR FOUND; THENCE N49-30-09E A DISTANCE OF 174.10' TO A 5/8" REBAR FOUND; THENCE S41-16-03E A DISTANCE OF 316.19' TO A PK NAIL FOUND; THENCE S15-15-42W A DISTANCE OF 400.99' TO A PK NAIL FOUND; THENCE S74-36-52E A DISTANCE OF 438.10' TO A 5/8" REBAR SET; THENCE N09-36-33E A DISTANCE OF 243.46' TO A PK NAIL FOUND; THENCE S39-28-02E A DISTANCE OF 234.48' TO A 5/8" REBAR SET; THENCE S17-27-19W A DISTANCE OF 107.06' TO A 5/8" REBAR SET; THENCE S74-32-39E A DISTANCE OF 746.13' TO A 5/8" REBAR SET; THENCE S15-27-21W A DISTANCE OF 370.29' TO A PK NAIL FOUND; THENCE S73-36-36E A DISTANCE OF 820.53' TO THE POINT OF BEGINNING AND CONTAINING 58.55 ACRES (2,550,486 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).



LINE TABLE		
LINE	LENGTH	BEARING
L1	149.49	S15°30'08"V
L2	634.11	S15°30'08"V
L3	183.87	N70°20'12"W
L4	273.83	N60°18'47"W
L5	69.76	S18°25'35"W
L6	380.50	S88°22'51"E
L7	154.73	N07°51'14"E
L8	423.98	N66°56'22"E
L9	732.61	N16°45'31"E
L10	437.61	N04°16'19"E
L11	174.10	N49°30'09"E
L12	316.19	S41°16'03"E
L13	400.99	S15°15'42"W
L14	438.10	S74°36'32"E
L15	243.46	N09°36'33"E
L16	234.48	S39°28'02"E
L17	107.06	S17°27'19"W
L18	746.13	S74°32'39"E
L19	370.29	S15°27'21"E
L20	620.53	S73°36'36"E

NOTES:

1) THE POINT OF COMMENCEMENT FOR THIS SURVEY IS  
US ARMY CORPS OF ENGINEERS DISK "MOUND".

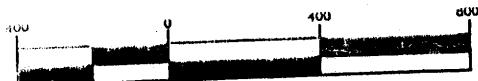
N 369830.424493

E 2327026.286330

NORTH AMERICAN DATUM 1983

2) THE BEARINGS FOR THIS SURVEY ARE BASED ON THE  
MONUMENTATION SET BY FORSBERG ENGINEERING UNDER CONTRACT  
N62467-91-C-1620.

GRAPHIC SCALE



( IN FEET )  
1 inch = 400 ft.

**FORSBERG ENGINEERING  
AND SURVEYING, INC.**  
1507 SAVANNAH HIGHWAY SUITE B  
P.O. BOX 30575  
CHARLESTON, SOUTH CAROLINA 29417  
(843) 571-2622 FAX (843) 571-6790  
CIVIL ENGINEERING, SURVEYING  
AND LAND PLANNING

**PARCEL 9**  
EDC IV  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, S.C.

WJH 5-12-05

Brownfields Agreement  
Parcel 10  
Charleston Naval Base  
North Charleston, South Carolina

SEPTEMBER 22, 2003

ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 10 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

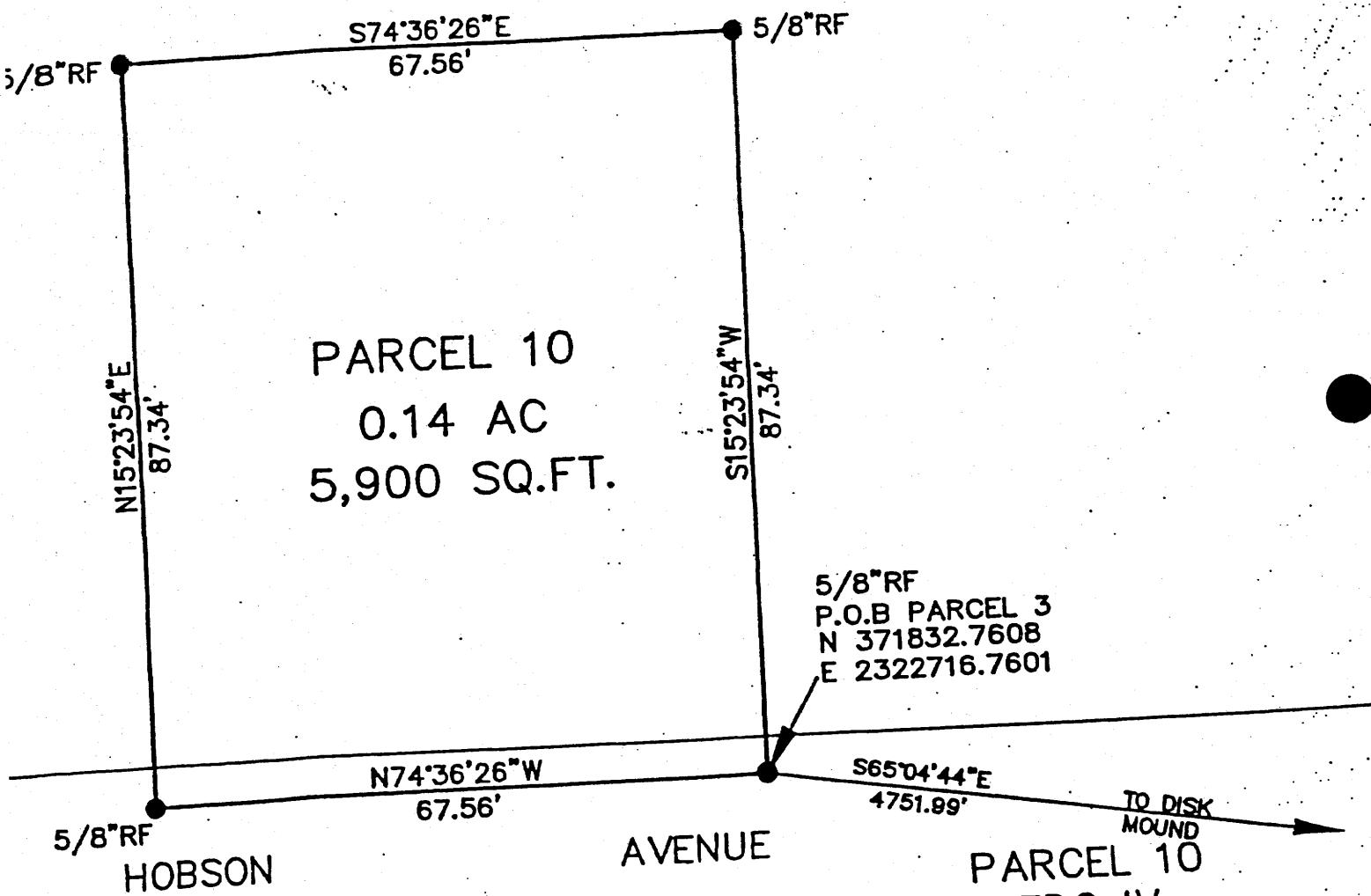
BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOUND" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE N65-04-44W A DISTANCE OF 4,751.99' TO A 5/8" REBAR FOUND LOCATED AT STATE PLANE COORDINATE N371832.7608, E2322716.7601 SAID POINT BEING THE POINT OF BEGINNING; THENCE FOLLOWING THE CENTERLINE OF HOBSON AVENUE N74-36-26W A DISTANCE OF 67.56' TO A 5/8" REBAR FOUND; THENCE N15-23-54E A DISTANCE OF 87.34' TO A 5/8" REBAR FOUND; THENCE S74-36-26E A DISTANCE OF 67.56' TO A 5/8" REBAR FOUND; THENCE S15-23-54W A DISTANCE OF 87.34' TO THE POINT OF BEGINNING AND CONTAINING 0.14 ACRE (5,900 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).

NOTES:

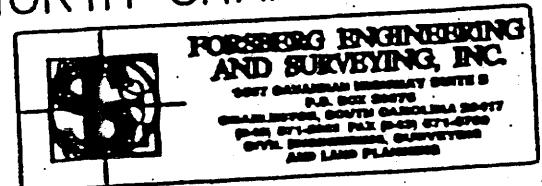
1) THE POINT OF COMMENCEMENT FOR THIS SURVEY IS  
US ARMY CORPS OF ENGINEERS DISK "MOUND".  
N 369830.424493  
E 2327026.286330  
NORTH AMERICAN DATUM 1983

2) THE BEARINGS FOR THIS SURVEY ARE BASED ON THE  
MONUMENTATION SET BY FORSBERG ENGINEERING UNDER CONTRACT  
N62467-91-C-1620.

STAFF PLANE



CHARLESTON NAVAL BASE  
NORTH CHARLESTON, S.C.



Brownfields Agreement

Parcel 11

Charleston Naval Base

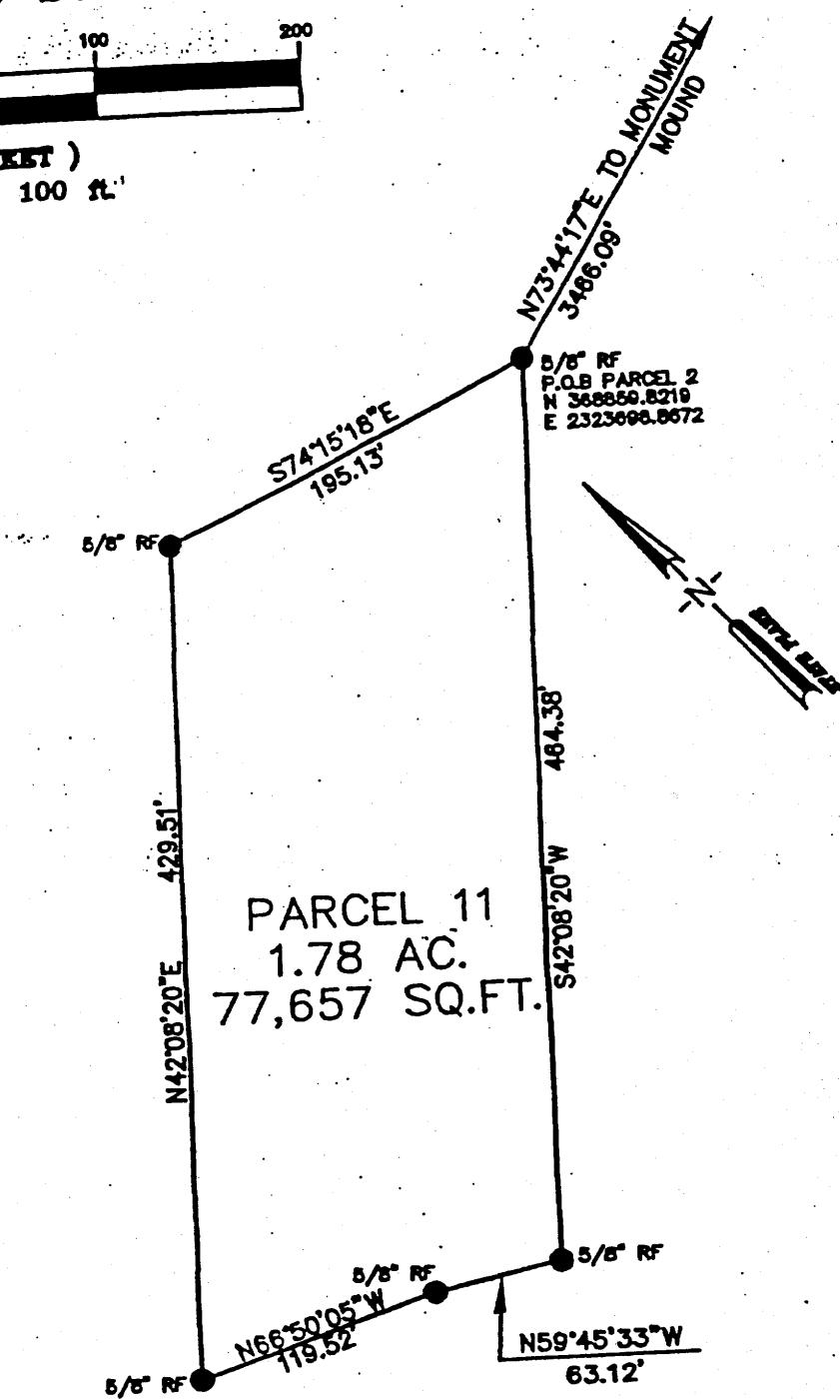
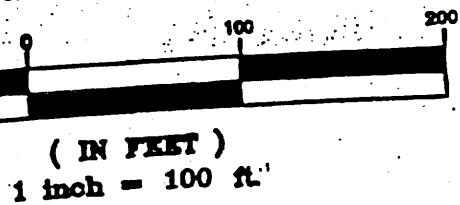
North Charleston, South Carolina

SEPTEMBER 22, 2003

ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 11 EDC IV LYING AND BEING IN THE CITY OF NORTH CHARLESTON, CHARLESTON COUNTY, STATE OF SOUTH CAROLINA AS SHOWN ON A SURVEY BY FORSBERG ENGINEERING & SURVEYING, INC. FOR SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND IN ACCORDANCE WITH CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND BOUNDS TO WIT:

BEGINNING AT U.S. ARMY CORPS OF ENGINEERS DISK "MOUND" LOCATED AT STATE PLANE COORDINATE N369830.4245, E2327026.2863 SAID POINT BEING THE POINT OF COMMENCEMENT; THENCE S73-44-17W A DISTANCE OF 3466.09' TO A 5/8" REBAR FOUND LOCATED AT STATE PLANE COORDINATE N3688859.8212, E2323698.8672; THENCE S42-08-20W A DISTANCE OF 464.38' TO A 5/8" REBAR FOUND; THENCE ALONG THE NORTH EDGE OF TIDEWATER ROAD N59-45-33W A DISTANCE OF 63.12' TO A 5/8" REBAR FOUND; THENCE CONTINUING ALONG THE NORTH EDGE OF TIDEWATER ROAD N66-50-05W A DISTANCE OF 119.52' TO A 5/8" REBAR FOUND; THENCE N42-08-20E A DISTANCE OF 429.51' TO A 5/8" REBAR FOUND; THENCE S74-15-18E A DISTANCE OF 195.13' TO THE POINT OF BEGINNING AND CONTAINING 1.78 ACRES (77,657 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD83 (NORTH AMERICAN DATUM 1983).

# GRAPHIC SCALE



## NOTES:

1) THE POINT OF COMMENCEMENT FOR THIS SURVEY IS  
US ARMY CORPS OF ENGINEERS DISK "MOUND".  
N 369830.424493  
E 2327020.288330

NORTH AMERICAN DATUM 1983

2) THE BEARINGS FOR THIS SURVEY ARE BASED ON THE  
MONUMENTATION SET BY FORSBERG ENGINEERING UNDER CONTRACT  
NS2487-81-C-1620.



PARCEL 11  
EDC IV  
CHARLESTON NAVAL  
NORTH CHARLESTON, S.C.

Brownfields Agreement  
PARCEL 16  
NAVAL STATION ANNEX  
CHARLESTON NAVAL BASE  
NORTH CHARLESTON, SC

August 27, 2003

ALL THAT PIECE, PARCEL OR TRACT OF LAND KNOWN AS PARCEL 16  
NAVAL STATION ANNEX, LYING AND BEING IN THE CITY OF NORTH  
CHARLESTON, THE COUNTY OF CHARLESTON, STATE OF SOUTH  
CAROLINA AS SHOWN ON A BOUNDARY SURVEY FOR SOUTHERN DIVISION  
NAVFAC BY FORSBERG ENGINEERING, INC. IN ACCORDANCE WITH  
CONTRACT N62467-89-D-0318 AND HAVING THE FOLLOWING METES AND  
BOUNDS TO WIT:

BEGINNING AT ARMY CORPS OF ENGINEERS DISK "MOUND" SAID POINT  
BEING THE POINT OF COMENCEMENT LOCATED AT STATE PLANE  
COORDINATE N 369830.4245, E 2327026.2863, THENCE N54-35-15W A DISTACE  
OF 33,198.98' TO A 5/8" REBAR SET SAID POINT BEING THE POINT OF  
BEGINNING LOCATED AT STATE PLANE COORDINATE  
N 389067.8091 E 2299969.0292; THENCE N24-43-06E A DISTANCE OF 32.73' TO  
A COMPUTED POINT; THENCE S66-03-00E A DISTACE OF 577.97' TO A  
COMPUTED POINT; THENCE S67-51-54E A DISTANCE OF 75.49' TO A  
COMPUTED POINT; THENCE S77-04-54E A DISTANCE OF 192.26' TO A  
COMPUTED POINT; THENCE S27-22-54E A DISTANCE OF 684.42' TO A  
COMPUTED POINT; THENCE S50-18-06W A DISTANCE OF 66.60', TO A  
COMPUTED POINT; THENCE S50-18-06W A DISTANCE OF 132.71' TO A  
CONCRETE MONUMENT FOUND; THENCE FOLLOWING THE BOUNDARY OF  
THE MARINE CORP RESERVE CENTER THE FOLLOWING EIGHT COURSES:  
ALONG A CURVE TO THE LEFT HAVING A CHORD BEARING OF N24-56-09W,  
A CHORD DISTANCE OF 384.73' A RADIUS OF 2744.79' AND A CURVE  
LENGTH OF 385.05' TO A CONCRETE MONUMENT FOUND; THENCE N28-50-  
49W A DISTANCE OF 264.18' TO A CONCRETE MONUMENT FOUND; THENCE  
S50-18-35W A DISTANCE OF 299.51' TO A CONCRETE MONUMENT FOUND;  
THENCE S42-45-54E A DISTANCE OF 56.97' TO A CONCRETE MONUMENT  
FOUND; THENCE S50-56-00W A DISTANCE OF 140.35' TO A CONCRETE  
MONUMENT FOUND; THENCE S39-20-05E A DISTANCE OF 410.23' TO A  
CONCRETE MONUMENT FOUND; THENCE S51-16-39W A DISTANCE OF  
102.37' TO A CONCRETE MONUMENT FOUND; THENCE S38-40-00E  
A DISTANCE OF 161.20' TO A CONCRETE MONUMENT FOUND; THENCE  
ALONG THE PROPERTY LINE OF LC REALTY CO.& CE DE CANDY  
(SOUTHERN) INC. S52-04-48W A DISTANCE OF 215.69' TO A 1" CRIMP TOP  
PIPE FOUND; THENCE ALONG THE PROPERTY OF PRITCHARD REAL ESTATE  
INVESTORS AND PRICHARD & COMPANY INC. S50-40-30W A DISTANCE OF  
792.31' TO A 3/4" (DISTURBED) OPEN TOP PIPE FOUND; THENCE ALONG THE  
EASTERN RIGHT OF WAY LINE OF AIR PARK ROAD N38-48-08-W

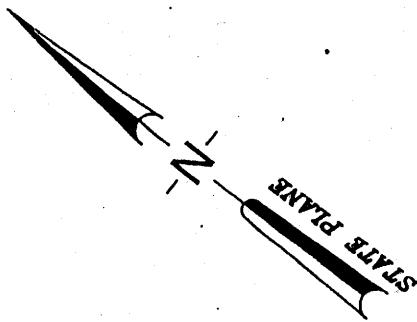
A DISTANCE OF 1054.08' TO A 5/8" REBAR SET; THENCE ALONG THE PROPERTY OF CHARLESTON AIR FORCE BASE HOUSING THE FOLLOWING FOUR COURSES N51-15-49E A DISTANCE OF 978.00' TO A RAIL ROAD SPIKE SET; THENCE N38-37-42W A DISTANCE OF 141.00' TO A RAIL ROAD SPIKE SET; THENCE N10-17-06E A DISTANCE OF 160.00' TO A RAIL ROAD SPIKE SET; THENCE N24-43-06E A DISTANCE OF 213.03' TO THE POINT OF BEGINNING AND CONTAINING 36.93 ACRES (1,608,687 SQ. FT.). SAID PROPERTY IS SUBJECT TO A SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION EASMENT FOR INTERSTATE 26 HAVING THE FOLLOWING DESCRIPTION:

BEGINNING AT SAID POINT OF BEGINNING LOCATED AT STATE PLANE COORDINATE N 389067.8091 E 2299969.0292 THENCE N24-43-06E A DISTANCE OF 32.73' TO A COMPUTED POINT; THENCE S66-03-00E A DISTANCE OF 577.97' TO A COMPUTED POINT; THENCE S67-51-54E A DISTANCE OF 75.49' TO A COMPUTED POINT; THENCE S77-04-54E A DISTANCE OF 192.26' TO A COMPUTED POINT; THENCE S27-22-54E A DISTANCE OF 684.42' TO A COMPUTED POINT; THENCE S50-18-06W A DISTANCE OF 66.60', TO A COMPUTED POINT; THENCE S50-18-06W A DISTANCE OF 132.71' TO A CONCRETE MONUMENT FOUND; THENCE ALONG A CURVE TO THE LEFT HAVING A CHORD BEARING OF N24-56-09W A CHORD DISTANCE OF 384.73' A RADIUS OF 2744.79' AND A CURVE LENGTH OF 385.05' TO A CONCRETE MONUMENT FOUND; THENCE N28-50-49W A DISTANCE OF 264.18' TO A CONCRETE MONUMENT FOUND; THENCE N28-56-19W A DISTANCE OF 195.49' TO A CONCRETE MONUMENT FOUND; THENCE N65-43-06W A DISTANCE OF 632.32' TO THE POINT OF BEGINNING AND CONTAINING 3.79 ACRES (164,916 SQ. FT.). SAID COORDINATE SYSTEM FOR THIS SURVEY IS NAD 83 (NORTH AMERICAN DATUM 1983).

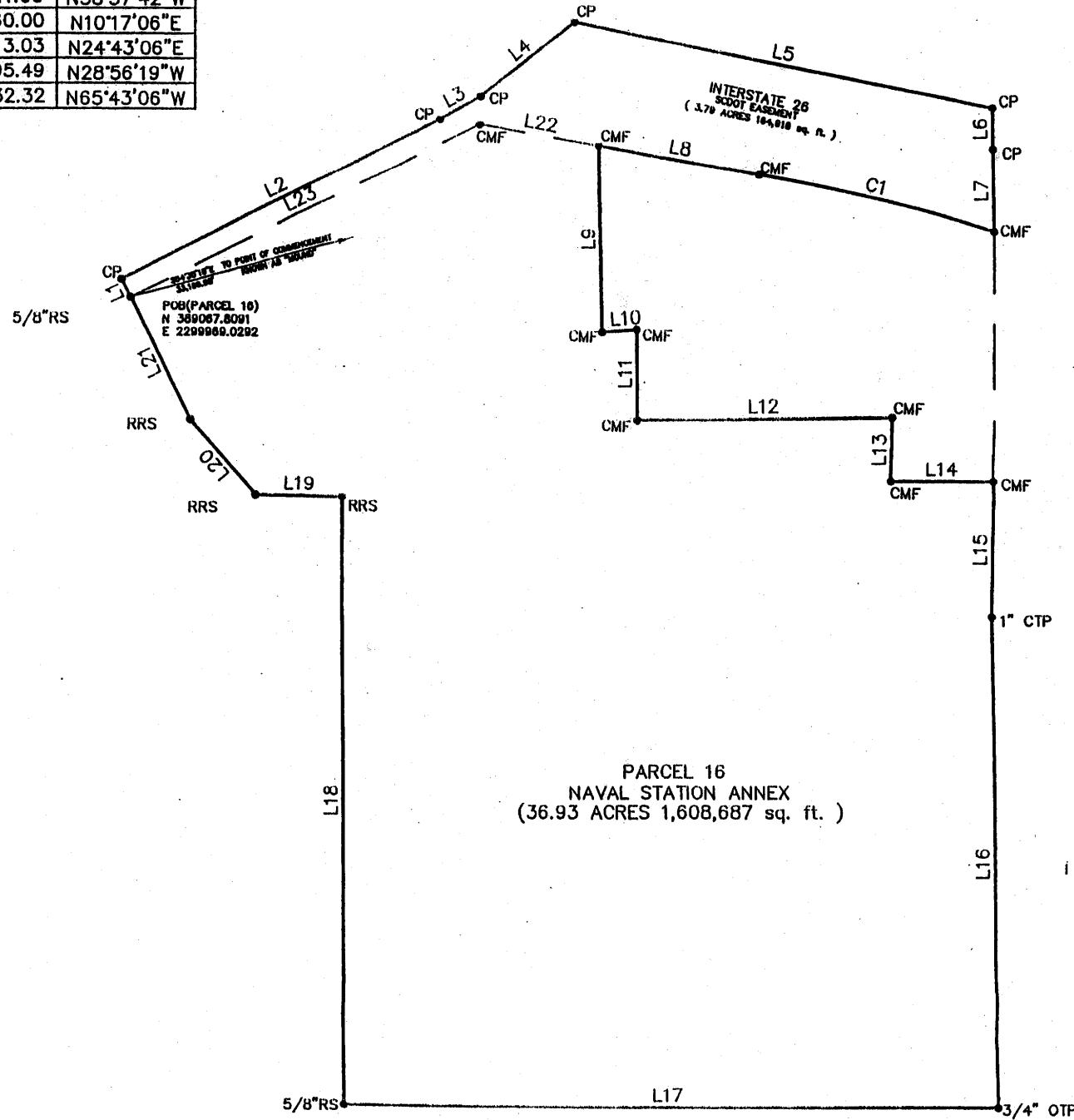
LINE TABLE		
LINE	LENGTH	BEARING
L1	32.73	N24°43'06"E
L2	577.97	S66°03'00"E
L3	75.49	S67°51'54"E
L4	192.26	S77°04'54"E
L5	684.42	S27°22'54"E
L6	66.60	S50°18'06"W
L7	132.71	S50°18'06"W
L8	264.18	N28°50'49"W
L9	299.51	S50°18'35"W
L10	56.97	S42°45'54"E
L11	140.35	S50°56'00"W
L12	410.23	S39°20'05"E
L13	102.37	S51°16'39"W
L14	161.20	S38°40'00"E
L15	215.69	S52°04'48"W
L16	792.31	S50°40'30"W
L17	1054.08	N38°48'08"W
L18	978.00	N51°15'49"E
L19	141.00	N38°37'42"W
L20	160.00	N10°17'06"E
L21	213.03	N24°43'06"E
L22	195.49	N28°56'19"W
L23	632.32	N65°43'06"W

**NOTES:**

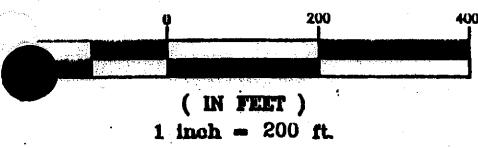
1) THE POINT OF COMMENCEMENT  
FOR THIS SURVEY IS US ARMY  
CORPS OF ENGINEERS DISK "MOUND".  
N 369830.424493  
E 2327026.286330  
NORTH AMERICAN DATUM 1983



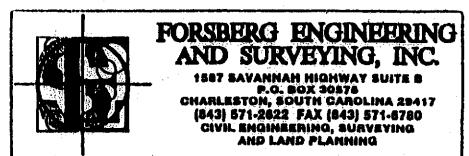
CURVE TABLE							
CURVE	LENGTH	RADIUS	TANGENT	CHORD	CHORD BRNG	DELTA	
C1	385.05	2744.79	192.84	384.73	N24°56'09"W	8'02"15"	



### **GRAPHIC SCALE**



PARCEL 16  
NAVEL STATION ANNEX  
NORTH CHARLESTON, S.C.



مکتبہ حضرت

## **EXHIBIT B**

### Anticipated Future Land Use Controls

ZONE	Parcel	SITE SWMMU/AOC
A	IV-1	39
F	IV-4	607
G	IV-5	3
G	IV-9	6/7/635
G	IV-5	24
G	IV-8	633
J	IV-2	721
K	IV-16	166/163

## **EXHIBIT C**

**APPENDIX A AND D OF THE INTERIM MEASURES  
WORK PLAN FOR INTERIM LAND USE CONTROLS**

**Appendix A**  
**ET Parcel - Active Site Summaries**

ZONE	SITE SWMMU/AOC	DESCRIPTION	SITE CONCERN	STATUS	EXPOSURE POTENTIAL AND CONTROL	REFERENCES
A	39	SWMMU 39 is the site of a former outdoor storage area for petroleum, oil, and lubricant (POL) drums along the north wall of Building 1604. Building 1604 is a large warehouse building located near the northern boundary of the Charleston Naval Complex (CNC).	No soil (surface or subsurface) COCs were identified. COCs identified in groundwater were: tetrachloroethane (PCE), trichloroethane (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), [1,1-dichloroethene (1,1-DCE), and vinyl chloride (VC).	A CMS was approved May 2003. An IM/WP, Phase II recommending lead injections was submitted in July 2004.	Risk - See Exhibit D Reuse - CRD	Zone A RFI Report, EnSafe 1998. CMS WP, Rev 0- Enhanced In Situ Biodegradation Pilot Test, CH2M-Jones, October 2000
E	5/18/605/621	SWMMU 5 is a former battery electrolyte treatment area adjacent to Pad 1278 and Dry Dock 4. The site was used for submarine battery salvaging, restoring, and recharging operations. SWMMU 18 is a PCB-spill area. Area of Concern (AOC) 605 is a waste paint storage area adjacent to Dry Dock 4 on Pad 1278. The pad was used to store materials such as paints, used oils, solvents, and chemicals. AOC 621 comprises the battery cracking area associated with SWMMUs 5 and 18 and AOC 605.	Lead in soil was remediated via excavation and offsite disposal. Lead in site groundwater was above the Technical Treatment Action level (TTA) of 15 ug/L. Currently groundwater concentrations of lead do not exceed the TTA. This is likely the result of previous removal activities.	An IM to remove lead-impacted soil at the site was completed in January 2003. Replacement wells were installed following the soil removal to allow monitoring of groundwater. A RFRA/IMCR/CMSWP was approved 8/11/03. A CMS recommending LTM w/LUCs was approved 01/16/04	Risk - See Exhibit D Reuse - M-2 Exposure - 2, 4, 5	Zone E RFI Report, EnSafe 1997. Interim/Stabilization Measure CR for SWMMU 5, AOC 605 and AOC 621, DET, April 1998. Phase I IM WP, CH2M-Jones, October 2001.
E	21/54	SWMMU 21, the Old Paint Storage Area, consists of a 20 ft by 180 ft. concrete pad constructed in 1942 for welding operations. Beginning in 1973, the slab was used for storage of containerized paint wastes from ship repair and overhaul operations. SWMMU 54, the Former Abrasive Blasting Area, consists of the unpaved area around SWMMU 21. The site was used for abrasive blasting of ship components and hull sections. Ship components, including anchor chains, were also painted in this area.	Surface soil COCs were originally removed during IM conducted by the Environmental Detachment, Charleston (DET). An additional RFRA/CMSWP recommending LUCs for the shallow groundwater has been approved. A CMS recommending LTM w/LUCs has been issued	Risk - See Exhibit D Reuse - M-2 Exposure - 4, 5	Zone E RFI Report, EnSafe 1997. IM CR, DET, 1997. SAP, CH2M-Jones, 2002.	
			Surface soil COCs were originally removed during IM conducted by the Environmental Detachment, Charleston (DET). An additional RFRA/CMSWP recommending LUCs for the shallow groundwater has been approved. A CMS recommending LTM w/LUCs has been issued	Risk - See Exhibit D Reuse - M-2 Exposure - 4, 5	Zone E RFI Report, EnSafe 1997. IM CR, DET, 1997. SAP, CH2M-Jones, 2002.	

**Appendix A**  
**ET Parcel - Active Site Summaries**

		Zone E RFI Identified antimony, chromium, lead, and hexavalent chrome		Risk - See Exhibit D		Zone E RFI Report, EnSafe 1997.	
E	25/70	The Zone E RFI identified antimony, chromium, lead, and hexavalent chrome in groundwater was completed by CH2M-Jones . A CMS recommendation was approved 09/30/03.	Reuse - M-2	CMS WP, Phase I - Source Area Delineation, CH2M-Jones, November 2000.			
E	65/544/546	The Zone E RFI did not identify any COCs in soil (surface or subsurface) at these sites. COCs were identified for shallow and deep groundwater. Shallow groundwater COCs were identified as acetone, aluminum, antimony, arsenic, beryllium, alpha-benzenehexachloride (BHC), zinc, beta-BHC, cadmium, chromium, copper, 1,2-DCE (total), dioxins, lead, mercury, vanadium, and VC. Deep groundwater COCs were identified as arsenic, 1,2-DCE (total), TCE, and VC.	Reuse - M-2	An RFI/CMSWP recommend CMS was approved August 2003. A CMS for MMA with LTM was approved April 2004.	Risk - See Exhibit D	Zone E RFI Report, EnSafe 1997.	
E	83/84/574	SWMU 83 is part of Building 9, which was originally a foundry. SWMU 83 encompasses the southern wing of this building. The foundry was built in 1906 and was used to cast metal parts in refitting ships. SWMU 84 consists of an area outside and to the west of Building 9. This area was formerly used to store lead blankets and shielding. AOC 574 is the former site of a 3,700-gallon aboveground storage tank (AST) on the southeast corner of Building 9.	Exposure - 1, 2	LUCs - Within Industrial Zone with W, U, E, & D restrictions	Reuse - M-2	IM CR, DET, March 1997.	
		BEQs in surface soil were between 1.3 and 15.6 mg/kg.		LUCs - Within Industrial Zone with W, U, E, & D restrictions	Exposure - 1, 2	IM CR, DET, July 1997.	
				LUCs - Within Industrial Zone with W, U, E, & D restrictions	Reuse - M-2	SAP, CH2M-Jones, October 2001.	
						RFI/CMSWP-LUCs, CH2M-Jones, July 2002.	
						CMS, CH2M-Jones, January 2003	

**Appendix A**  
**ET Parcel - Active Site Summaries**

		The Zone E RFI identified arsenic, dieldrin, and BEOs as COCs in the surface soil for residential reuse. Only arsenic was identified as a COC for industrial reuse. No COCs were identified for subsurface soils. Chlorobenzene, 1,4-dichlorobenzene, and 1,2-dichlorobenzene were identified as COCs for shallow groundwater. Arsenic and manganese were identified as COCs for deep groundwater. The RFI report recommended no further action for soil and that a CMS be conducted for shallow groundwater COCs.	A RFI RA/CMSWPL recommended LUCs was approved April 2003. A CMS for MNA and LTM was approved 09/30/03.	Risk - See Exhibit D Reuse - M-2 Exposure - 1, 2, 5 LUCs - Within Industrial Zone with W, U, E, & D restrictions	Zone E RFI Report, EnSafe 1997. RFRA/CMSWPL-LUCs, CH2M-Jones , Jan 2003 CMS, CH2M-Jones, August 2003
E	87/172/564	SWMU 87 is a former less-than-90-day accumulation area that was once part of the Charleston Naval Shipyard hazardous waste management system. It was located north of Building 80. SWMU 172 is the steam cleaning area north of Building 80. AOC 564 is a 300-gallon OWTS north of Building 80.	The Zone E RFI identified arsenic, mercury, lead, and BEOs as COCs for surface soil and lead and mercury as COCs for subsurface soil at SWMU 102.	Risk - See Exhibit D Reuse - M-2 Exposure - 1, 2 LUCs - Within Industrial Zone with W, U, E, & D restrictions	Zone E RFI Report, EnSafe 1997. SAP, CM2M-Jones, July 2002 RFRA/CMSWPL-LUCs, CH2M-Jones, Feb 2003 CMS, CH2M-Jones, April 2003
E	102/590	SWMU 102 is the area of a mercury spill under the central portion of Building 79. AOC 590 is an alley between buildings 79 and 1711	A CMS recommending LUCs was approved 08/05/03.	Risk - See Exhibit D Reuse - M-2 Exposure - 1, 2, 5 LUCs - Within Industrial Zone with W, U, E, & D restrictions	Zone E RFI Report, EnSafe 1997. SAP, CM2M-Jones, July 2002 RFRA/CMSWPL-LUCs, CH2M-Jones, Oct 2002
E	563	AOC 563 Locomotive House, is former Building 37. It was a locomotive maintenance facility.	The Zone E RFI identified BEOs as a surface soil COC for residential reuse. No COCs were identified in surface soil for industrial reuse. Aluminum, arsenic, lead, and TCE were identified as shallow groundwater COCs.	Risk - See Exhibit D Reuse - M-2 Exposure - 1, 2, 5 LUCs - Within Industrial Zone with W, U, E, & D restrictions	Zone E RFI Report, EnSafe 1997. A SAP was developed in conjunction with AOC 569/570/578. Using the results of that sampling to evaluate the site, a RFRA/CMSWPL for LUCs was developed. Concurrence for LUCs received 08/21/03
E	569/570/578	AOC 569 is a former gas station and oil storehouse in Building 1279. Two 2,500-gallon Underground Storage Tanks (UST's) were originally associated with the facility. An additional 3,000-gallon UST was installed in 1986. The site was demolished and the tanks removed in 1992. AOC 570 was a coal storage area which extended from Building 30 to Sixth Avenue and from Carolina Avenue to Hobson Avenue. AOC 578 consists of a transportation shop and garage in Bldg 25.	The Zone E RFI identified COCs for surface soil, shallow groundwater, and deep groundwater. Arsenic and BEOs were identified as COCs for SWMU 102 surface soil. Aluminum, arsenic, beryllium, chloroform, chromium, lead, PCE, TCE, and vanadium were identified as shallow groundwater COCs. Thallium, 1,2-dichloroethene, and TCE were identified as deep groundwater COCs.	Risk - See Exhibit D Reuse - CRD Exposure - 1, 2, 5 LUCs - Within Industrial Zone with W, U, E, & D restrictions	Zone E RFI Report, EnSafe 1997. RFRA/CMSWPL,CH2M-Jones, Dec 2002 IM VP-AOC 569,CH2M-Jones, Feb 2003 CMS, CH2M-Jones, November 2003

**Appendix A**  
**ET Parcel - Active Site Summaries**

E	723	No record of a release from these paint booths has been located, however there is a VOC plume within the area. A RFA and RFI work plan for investigating the site has been submitted.	RFA completed along with additional sampling. RFIRA/CMSWP has been submitted - groundwater remedial action recommended.	Risk - See Exhibit D RFA /RFIWP, CH2M-Jones, May 2003 RFIRA/CMSWP, CH2M-Jones, June 2004	Ruse - M-2 Exposure - 5	LUCs - Within Industrial Zone with W, U, E, & D restrictions
F	607	The Zone F RFI identified arsenic, lead, vanadium, pentachlorophenol, chloromethane, PCE, TCE, 1,1-DCE, 1,2-DCE, and VC as COCs for either shallow, intermediate, or deep groundwater. There was also an indication of VOCs in soil. An IM has been conducted in the shallow groundwater zone to address the presence of PCE and its breakdown products.	An IM using Electrical resistance Heating (ERH) was completed in July 2002. A pilot study CMS was approved for residual VOCs in groundwater and faciite injections were performed. The lower aquifer was investigated under this CMS.	Risk - See Exhibit D Reuse - CRD Exposure - 5	Zone F RFI Report, EnSafe 1997. IM VP, Air Sampling, CH2M-Jones, December 2000. Phase I IM WP, CH2M-Jones, March 2001. Phase II IM WP, CH2M-Jones, May 2001. Phase III IM WP, Six-Phase Hearing, CH2M-Jones, July 2001. RFIRA/IMCR/CMSWP, CH2M-Jones, April 2003 CMS/Pilot Study, CH2M-Jones, October 2003	LUCs - W, U, D
F	613	AOC 607 is a former dry-cleaning facility at Building 1189. Facility 89 is a former Navy exchange maintenance shop	The RFI RA evaluated data collected during and subsequent to the RFI. Groundwater COCs were identified as PCE, TCE, 1,2-DCE, and VC. COCs were not identified in surface or subsurface soil.	Risk - See Exhibit D Reuse - M-1 & M-2 Exposure - 5	Zone F RFI Report, EnSafe 1997. RFIRA with CMSWP, CH2M-Jones, March 2002. Phase I IM WP (AOC 613), CH2M-Jones, June 2002.	LUCs - Within Industrial Zone with W, U, E, & D restrictions

**Appendix A**  
**ET Parcel - Active Site Summaries**

F	617	AOC 617 is the former location of a galvanizing plant located in former Building 1176. A 3,000-gallon UST, used for chemical storage, was also located at the site.	Zinc was detected in groundwater above the Media Clean-up Standard (MCS) of 11,000 ug/l.	The CMS, recommending groundwater extraction, treatment, and disposal was approved May 2002. An aquifer test was performed to assess sustainable groundwater recovery rates. The results of the test indicated that insufficient flow was present to support a groundwater recovery system. Accordingly, a revised CMS recommending LUCs was approved 9/30/03.	Risk - See Exhibit D Reuse - M-1 Exposure - 5 LUCs - Within Industrial Zone with W, U, E, & D restrictions	Zone F RFI Report, EnSafe 1997. RFI RA and CMS WP, CH2M-Jones, November 2001. CMS, AOC 617, CH2M-Jones, February 2002. Revised CMS, CH2M-Jones, August 2003
G	3	SWMU 3 is an approximately 50 ft by 30 ft area where the former Building 42-A was located. The building was a shed where pesticides were mixed prior to 1971. Equipment for spraying and mixing pesticides was reportedly rinsed on the ground outside, with the rinsate allowed to infiltrate the soil.	Groundwater COGs were identified as pesticides, aluminum, beryllium chromite, thallium, and vanadium.	CH2M-Jones has completed an IM at the site where the goal was to remove pesticide and PCB impacted soil. Additional wells were installed and groundwater sampling and analysis conducted. A combined IMCR/RFRA/CMSWP-LUCs was approved on 10/30/03. A CMS recommending MNA w/LTM was approved 03/03/04.	Risk - See Exhibit D Reuse - M-1 Exposure - 5 LUCs - W, E, U	Zone G RFI Report, EnSafe 1998. Phase I IM WP, CH2M-Jones, October 2001. SAP, CH2M-Jones, March 2002 Phase II IM WP, CH2M-Jones, March 2002. Phase III SAP, CH2M-Jones, April 2002. Groundwater SAP, CH2M-Jones, May 2002. IMCR/RFRA/CMSWP-LUCs, CH2M-Jones, Feb 2003 CMS, CH2M-Jones, November 2003
G	6/7635	Known as the Public Works Storage Yard, the area is unpaved with a fenced area. Routinely generated containerized wastes (cleaning solvents and used motor oil) along with wastes from building maintenance and pest control operations were stored at this site prior to shipment off site.	Groundwater is being investigated for possible pesticide contamination.	IMs have been performed at this site by the DET and CH2M-Jones to remove PCBs, pesticides, and BEQs from surface and subsurface soil. Investigation of the groundwater following soil removal confirmed pesticides in the shallow groundwater. An RFRA/CMSWP was approved and a CMS recommending MNA w/LTM is active.	Risk - See Exhibit D Reuse - M-1 Exposure - 5 LUCs - V	Zone G RFI Report, EnSafe 1998. IMWP, CH2M-Jones, April 2002. RFRA/IMCR/CMSWP-LUCs, CH2M-Jones, December 2002 CMS, CH2M-Jones, October 2003
G	8/636	SWMU 8 was a waste oil disposal pit. AOC 636 is a former torpedo magazine use for storage of torpedoes and munitions in the 1940's.	An interim measure to remove waste oil waste was completed at SWMU 8. This removed the bulk of the oil. Some LNAPL remains in a few wells. PCBs and some metals in surface and subsurface soil are elevated. BEQ and antimony are of concern in groundwater.	A RFRA/CMSWP was generated followed by a CMS recommending LNAPL recovery and LUCs which was approved 08/14/03.	Risk - See Exhibit D Reuse - M-1 Exposure - 5 LUCs - Within extended landfill area with W, U, D, & E	RFRA/CMSWP-LUCs, CH2M-Jones, Jan 2003 CMS, CH2M-Jones, June 2003

**Appendix A**  
**ET Parcel - Active Site Summaries**

G	633	<p>AOC 633 is an electrical substation located near Building 451C.</p> <p>PCBs in soil were remediated via excavation and offsite disposal. Light non-aqueous phase liquid (LNAPL) was detected at the site but has been remediated in the soil. A small amount of LNAPL remains at one well. There is concern for potential groundwater contamination.</p>	<p>An IMCR was submitted on September 17, 2002. New monitoring wells were installed and sampled to determine groundwater remedial efforts. An IMCR/RFRA-NFA was approved for the soil removal and a RFRA/CMSWP-LUCs was issued in March 2003 for the groundwater. A CMS for the groundwater recommending LNAPL recovery and MNA is active.</p>	<p>Risk - See Exhibit D</p> <p>Reuse - M-1</p> <p>Exposure - 5</p> <p>LUCs - W, U</p>	<p>Zone G RFI Report, EnSafe 1998.</p> <p>Zone G RFI WP Addendum, EnSafe January 2000.</p> <p>Sampling Report, Delineation of PCBs, EEG, February 2000.</p> <p>IM WP, Subsurface Soil, CH2M-Jones, September 2001.</p> <p>Phase II IM WP, CH2M-Jones May 2002.</p> <p>CMS, CH2M-Jones, December 2003</p>
H & G	9, 19, 20, 121, 637, 649, 650, 651, 706	<p>The Combined SWMMU 9 includes an approximately 120-acre closed landfill at the base's southern end, and is generally bounded by Shipyard Creek to the southwest, Hopson Avenue to the northeast, and Holland Street to the southeast. The Combined SWMMU 9 includes SWMMU 9, the landfill itself, and the following SWMMUs and AOCs located on the landfill: SWMMUs 19, 20, and 121; AOCs 649, 650, and 651. AOC 637, Zone G, and AOC 706, Zone G, which includes building 246, a former hazardous waste storage and transfer facility are also being investigated with SWMMU 9. SWMMU 121 and AOCs 649, 650, and 651 are located on SWMMU 9 but are within a fed-to-fed transfer to the Department of Homeland Security.</p>	<p>Surface soil COCs have been identified on a site-specific basis for each site within Combined SWMMU 9. SVOCs, PCBs and metals have been identified as surface soil COCs for these sites. Groundwater COCs were identified on a sampling round-specific basis. Groundwater COCs at Combined SWMMU 9 included VOCs, semi-volatile organic compounds (SVOCs), metals, and dioxins. At AOC 706, antimony has been identified as a COC in subsurface soil and groundwater.</p>	<p>Risk - See Exhibit D</p> <p>Reuse - M-1</p> <p>Exposure - 3, 4, 5</p> <p>LUCs - U, D, W, E</p>	<p>Zone H RFI Report, EnSafe 1996.</p> <p>CMS WP, Combined SWMMU 9, CH2M-Jones, February 2001.</p> <p>CMS, Combined SWMMU 9, CH2M-Jones, January 2003</p> <p>RFRA/CMSWP, AOC 706, CH2M-Jones, Jan 2003</p> <p>CMS, Rev 1, CH2M-Jones, March 2004</p>
H	Facility 123	<p>Facility 123 is located within Zone G and SCDHEC has raised the question regarding the investigation of an oil water separator (OWS) which is located adjacent.</p>	<p>There are no known contaminants identified at the present time however the facility is located adjacent to several sites that are being investigated through the petroleum program. This facility is being investigated as a part of the investigation for AST 3899.</p>	<p>Risk - See Exhibit D</p> <p>Reuse - M-1</p> <p>Exposure - unknown</p> <p>LUCs - W, U, D</p>	<p>A Confirmatory Sampling Investigation (CSI) will be developed to determine if any releases of hazardous material had occurred. Until such time as the contaminates can be confirmed, the area that will have LUCs applied.</p>

**Appendix A**  
**ET Parcel - Active Site Summaries**

H	196	SWMU 196 is the former public works storage yard that includes Building 1838. This area was formerly tidal marsh land and has been filled to its current elevation.	Benzene, cis-1,2 DCE, PCE, TCE, VC, and chlorobenzenes are groundwater COCs. BEQs and arsenic were identified as surface soil COCs, however their concentrations appear to be generally below current screening criteria.	A groundwater IM has been conducted at SWMU 196 to address the presence of benzene and chlorobenzenes. The IM (in-situ chemical oxidation) was completed in July 2002. Based on the results of the performance monitoring, a CMS recommending biosparging and LTM is active.	Risk - See Exhibit D Reuse - M-1 Phase I IM WP, CH2M-Jones, November 2000. Phase II IM WP, CH2M-Jones, August 2001. CMS, CH2M-Jones, June 2003 LUCs Within extended landfill area with W, U, D, & E LUCs	Zone H RFI Addendum, EnSafe 2000.
H	503	UXO Site south of Building 665	Two Mark MK 47 Depth Bombs were Jefferson in this area.	An IM was performed in 1997. The area was searched with magnetometer and the anomalies excavated	Risk - unexploded ordnance Reuse M-1 Exposure - 7 LUCs - U,D	Zone H RFI Report, EnSafe, 1996 IM Completion Report, SUPSHIP Portsmouth, 1997.
J	721	AOC 721 was identified as a coal storage area.	Arsenic, other metals, and PAH associated with coal storage	This site was discovered during the investigation of SWMU 44, the coal storage area. An IM was completed at SWMU 44 to remove the remaining coal and an IM was completed to remove arsenic in the soil. An RFI is ongoing.	Risk - RFI in progress, risk not determined Reuse - CRD Exposure - 2, 3, 4, and 5 LUCs - W	Zone C RFI Report, EnSafe 1997. CMS Workplan/IM Completion Report, CH2M-Jones, 2002. AOC 721 RFI Workplan EnSafe 2003.

**Appendix A**  
**ET Parcel - Active Site Summaries**

K 166/163	SWMU 166, a former automobile service rack area, is unpaved and located at the southwest corner of Intersection Avenue B and Fifth Street, immediately north of Building 22. SWMU 163 is a 10 foot square concrete vault, 2 feet deep located immediately north of building 2513 that was used as a less than 90 day hazardous accumulation area.	Based on the findings presented in the SWMU 166 and 163 RFI's, no COCs are present in surface or subsurface soil at the site. TCE and cis-1,2-DCE were identified as groundwater COCs. The groundwater contamination for both sites will be addressed under SWMU 166	An IM WP was developed to address the presence of TCE and cis-1,2-DCE in groundwater. The IM (chemical reduction with ZVI) was performed and the results suggested that a polishing operation be performed (completed in May 2004). Currently awaiting sampling to determine the effectiveness of the polishing operation.	Risk - See Exhibit D  Reuse - B-2  Exposure - 5  LUCs - W, U	Zone K RFI, EnSafe, June 1999.  Phase I - CMS Work Plan, CH2M-Jones, July 2000. Phase II - CMS Work Plan, CH2M-Jones, October 2000. RFIRA, CH2M-Jones, January 2002. IMWP, CH2M-Jones, January 2002. MIP Phase II CMS Report, CH2M-Jones, January 2002.
LUC (E & F)	23/63/540-543,53/526,67 525,530,531, 550,551,552, 559,560, 561,573,576, 586,596, 597,598,599, 36/620, 712,713,714, 716,717, fac 89 & 97	This LUC Zone contains numerous sites varying in disposition from NFA to restrictions on soil and groundwater, however, all sites within this Zone will have a Use restriction due to the intended reuse for industrial purposes. Sites that have achieved NFA status are not identified in this table.	Soil and groundwater are in excess of residential MCLs but within industrial levels.	Risk - See Exhibit D  Reuse - M-1, M-2  Exposure - 1, 2, 3, 4, 5  LUCs - W, U, E, D	Zone E RFI Report, EnSafe 1997.  See attached sheet for listing of applicable Zone E & F references.

**Exposure Potential Codes:**

- 1 Direct skin contact with contaminated surface soil (all scenarios: on-site worker, trespasser, construction worker, residential, recreational).
- 2 Ingestion of contaminated surface soil (all scenarios).
- 3 Direct skin contact with contaminated subsurface soil (construction worker).
- 4 Ingestion of contaminated subsurface soil (construction worker).
- 5 Ingestion of contaminated groundwater (residential).
- 6 Soil to groundwater leaching with subsequent ingestion of groundwater.
- 7 Exposure is due to potential presence of unexploded ordnance; chemical contamination or risk not identified.

**Reuse codes**

- CRD Commercial Redevelopment District
- M-1 Light Industrial District
- M-2 Heavy Industrial District
- B-2 General Business District

**Appendix A**  
**ET Parcel - Active Site Summaries**

**Land Use Controls (LUCs)**

- W Groundwater Restrictions - No use of groundwater for drinking or irrigation purposes. Foundation construction requires RCRA Permittee approval.
- U Restrictive covenants designation - Only industrial and commercial uses allowed.
- D Limits on soil disturbing activities - Excavations require approval of RCRA Permittee.
- E Engineering Controls - Limits imposed on the removal of "exposure barriers". Maintenance of engineering controls required.
  - \* LUCs are implemented by means of an Interim Measure Work Plan (IMWP) issued specifically for that purpose.

**Appendix D**  
**Engineering Control and Inspection Frequency**  
**By Site**

Interim Measure Work Plan for Interim LUCs  
 Charleston Naval Complex  
 Revision 2  
 August 2004

ZONE	SITE SWMU/AOC	ENGINEERING CONTROL	INSPECTION FREQUENCY
E	5/18/605/621	Maintain Paved Areas and soil cover. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
E	21/54	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	25/70	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	65/544/546	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	83/84/574	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	87/172/564	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	102/590	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually

**Appendix D**  
**Engineering Control and Inspection Frequency**  
**By Site**

E	563	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	569/570/578	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
E	723	Inside of Building. Limit access to building to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits	Annually
F	613	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
F	617	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
G	3	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
G	6/7/635	Maintain soil cover. Do not dig without approval, Commander, Southern Division Naval Facilities Engineering Command. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually

**Appendix D**  
**Engineering Control and Inspection Frequency**  
**By Site**

Interim Measure Work Plan for Interim LUCs  
 Charleston Naval Complex  
 Revision 2  
 August 2004

G	8/636	Maintain soil cover. Do not dig without approval, Commander, Southern Division Naval Facilities Engineering Command. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Semi-annually
G	24	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
G	633	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
H & G	9, 19, 20, 121, 637, 649, 650, 651, 654, 706	Maintain soil cover. Do not dig without approval, Commander, Southern Division Naval Facilities Engineering Command. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Semi-annually
H	17	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Semi-annually
H	196	Maintain soil cover do not re-grade. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually

**Appendix D**  
**Engineering Control and Inspection Frequency**  
**By Site**

H	503	Maintain soil cover. Do not dig without approval, Commander, Southern Division Naval Facilities Engineering Command. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
H	724	Keep all work within corridor provided. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Semi-annually
I	680	Maintain paved areas and building foundations. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
I	722	Maintain soil cover do not re-grade. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
J	721	Maintain soil cover do not re-grade. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Annually
K	166/163	Maintain soil cover do not re-grade. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Semi-annually
LUC (E & F)	23/63/540-543, 53/526, 67 525, 530, 531, 550, 551, 552, 559, 560, 561, 573, 576, 586, 596, 597, 598, 599, 36/620, 712, 713, 714, 716, 717	Maintain fence and control access. Limit access to authorized personnel only. Do not install any wells into the surficial aquifer. Restrict development to non-residential activities only. Excavate in accordance with approved dig permits.	Semi-annually

## **EXHIBIT D**

**APPENDIX F (LAND USE CONTROL MANAGEMENT PLAN)  
OF RCRA PERMIT SC0 170 022 560**

## **APPENDIX F - LAND USE CONTROL MANAGEMENT PLAN**

### **DEFINITION**

As used herein, the term "land use control" or "LUC" with regard to real property, means any restriction or control that limits the use of and/or exposure to any portion of that property, including water resources, arising from the need to protect human health and the environment. The term encompasses "institutional controls", such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other "legal" restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., no drilling of drinking water wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protectiveness that one or more corrective actions were designed to achieve.

### **PURPOSE**

When land use controls (LUCs) are necessary to assure the reliability of land use assumptions, the Permittee must put appropriate procedures in place to ensure that such controls will be maintained for as long as necessary to keep the chosen remedy fully protective of human health and the environment. This Land Use Control Management Plan (LUCMP) was developed to assure the effectiveness and reliability of the required LUCs for as long as any LUCs continue to be required in order for the corrective action to remain protective and to serve as an enforceable document for any noncompliance. The requirements described herein are only applicable to those SWMUs and/or AOCs for which LUCs were selected as part of the final corrective action. The conceptual outline for the LUC should be developed as part of the final corrective action. The specific details, as outlined in module II, for the implementation of the LUC should be outlined in the CMI Workplan (or other Corrective Action document approved by the Department). Appendix A-8 provides a list of SWMUs and/or AOCs for which LUCs are selected as part of the corrective action, a summary of the corrective action requiring LUC, and a reference to the document selecting the final corrective action.

The purpose of the LUCMP is to accomplish the following specific objectives for SWMUs and/or AOCs listed in Appendix A-8:

To implement a process for the Permittee to periodically advise the Department of the continued maintenance of any LUCs and of any planned changes in land use which might impact these LUCs.

To implement procedures for integrating all SWMUs and/or AOCs into the Property Conveyance Process as applicable.

To implement a process to inform current and future property users of environmental conditions at SWMUs and/or AOCs.

## LUC INSPECTION - REVIEW - CERTIFICATION

The Permittee shall initiate the following specific actions:

- A. Conduct inspections/review, at the frequency specified in the CMI Workplan or other Corrective Action document approved by the Department, of all SWMUs and/or AOCs identified in Appendix A-8. These inspections shall be for the purposes of verifying that all necessary LUCs have been implemented and are being properly maintained. The Permittee will be responsible for the following:
  1. Ensuring that all required inspections are performed.
  2. Ensuring that the Department is provided with thirty (30) days advance notice of, and opportunity to observe facility personnel as they conduct at least one of the quarterly inspections each year.
  3. Ensuring that the Department is notified in writing within thirty (30) days of any deficiencies noted.
  4. Ensuring that all appropriate measures are undertaken within thirty (30) days to correct any deficiencies and timely notification in writing to the Department detailing measures taken. If thirty (30) days is not sufficient time to correct the deficiencies, the Navy must submit to the Department a written request for an extension. The written request must provide the rationale for the extension and a projected timeframe for rectifying the deficiencies.
- B. Prepare and forward an annual report to the Department signed by the Permittee certifying the continued maintenance of all LUCs associated with those SWMUs and/or AOCs identified in Appendix A-8.

## I. CHANGE IN LAND USE

The following shall constitute a change in land use:

- A. Any change in land that would be inconsistent with those specific exposure assumptions in the human health and/or ecological risk assessments or other criteria that served as the basis for selecting the LUCs as part of the final corrective action.
- B. Any activity that may disrupt the effectiveness of the LUC. Including but not limited to: excavation at a SWMU and/or AOC; groundwater pumping that may impact a groundwater mixing zone or groundwater corrective action or monitoring program; a construction project that may impact ecological habitat protected by the corrective action; removal of access control; removal of warning signs; or rezoning.
- C. Any activity that may alter or negate the need for the specific LUCs.

## II. REQUEST FOR PERMIT MODIFICATION FOR LAND USE CHANGE

- A. The Permittee will provide written notification to the Department at least sixty days (60) (except in emergency situations- where notice should be given as soon as practicable) prior to implementation of any change in land use at the SWMUs and/or AOCs identified in Appendix A-8. A request for a permit modification will be provided for the purpose of obtaining the Department's concurrence with the Permittee's determination as to whether the contemplated change will or will not necessitate re-evaluation of the selected corrective action or implementation of specific measures to ensure continued protection of human health and the environment.

No land use change should be implemented until the permit modification is effective. The request for modification will include the following at a minimum:

1. An evaluation of whether the anticipated land use change will pose unacceptable risks to human health and the environment or negatively impact the effectiveness of the selected corrective action;
2. An evaluation of the need for any additional corrective action or LUCs resulting from implementation of the anticipated land use change; and,
3. A proposal for any necessary changes in the selected corrective action.

## 7. FUNDING COMMITMENT

The Permittee agrees to use its best efforts to obtain all necessary funding through the appropriate authorities or source(s) to ensure the continued maintenance of all LUCs associated with SWMUs and/or AOCs identified in Appendix A-8 and, where necessary, the timely re-implementation of any LUCs and/or completion of corrective action necessitated by any inappropriate change to a LUC.

## 8. REQUEST FOR PERMIT MODIFICATION FOR PROPERTY CONVEYANCE

If the decision is made to transfer to any other agency, private person, or entity, either title to, or some lesser form of property interest (e.g., an easement, or right of way, etc.) SWMUs and/or AOCs identified in Appendix A-8, then the Permittee will ensure that at a minimum in accordance with R.61-79.270.42:

The Navy must put forth its best efforts to provide the Department with written notification at least ninety (90) days prior the initiation of the property conveyance process. Such notice shall indicate the following:

1. The type of property conveyance (e.g., an easement, or right of way, etc.)
2. The anticipated final date for the conveyance
3. Future property owners
4. A list of SWMUs and/or AOCs affected by the conveyance
5. Mechanism(s) that will be used to maintain any LUCs which may need to remain in place after the property conveyance.

B. All LUCs for SWMUs and/or AOCs identified in Appendix A-8 must be incorporated into the property conveyance documents so that the transferee(s) is given adequate notice of existing site condition(s). The details of the LUC provided in the property conveyance documents must be consistent with the details in the document where the final corrective action was selected.

C. It is understood that for the planned conveyance of any SWMUs and/or AOCs identified in Appendix A-8, the Department will re-evaluate the continued appropriateness of any previously agreed upon LUC(s) based upon the level of assurance provided, to ensure that necessary LUCs will be maintained and enforced.

## 9. IMPLEMENTATION OF LAND USE CONTROLS

every SWMU and/or AOC identified in Appendix A-8, the Permittee must provide the information listed below prior to implementing any LUC. This information should be presented in the CMI Workplan (or other Corrective Action document approved by the Department).

- A. SWMU and/or AOC Description: (e.g., provide survey plat map certified by a professional land surveyor)
- B. Location/Area Under Restriction: (e.g., northeast corner of the facility between buildings 250 and 260 as reflected on BMP page \_\_\_\_ / GIS index under IR Site \_\_\_\_).
- C. LUC(s) Implemented and Corresponding Objective(s): (e.g., installation of a fence to restrict public access, etc.)
- D. Corrective Action Selection Document: (e.g., CMS dated \_\_\_\_\_).
- E. Field Implementation Methods with Appropriate Figures: (e.g., engineering design drawings, etc.).
- F. Inspection Methods and Maintenance Procedures: (e.g., Monitoring well plan to include analytical suite, well identification, reporting format, etc.)
- G. Schedule for Submitting a Contingency Plan to be Implemented in the Case that Corrective Action and LUCs are no Longer Effective: (e.g. procedure for notification and implementation corrective action in the event that pump and treat system is not achieving modeled goals, etc.)
- H. Corrective Action Completion – LUC Termination Process: (e.g. Pump and treat system has achieved goals and prohibition of drilling of drinking water wells is no longer needed, etc.)

Other Pertinent Information: